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EFFECTS OF HEALTHFUL CHILDREN'S FOODS AND NUTRITION INFORMATION ON CAREGIVERS' EMPOWERMENT AND PERCEIVED CORPORATE SOCIAL RESPONSIBILITY AND WILLINGNESS TO VISIT SIT-DOWN FAMILY RESTAURANTS

A Dissertation in
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by
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ABSTRACT

Caregivers’ demands for healthful children’s foods and nutrition information at restaurants have been increasing as childhood obesity has become an issue of public concern. The global objective of this study is to examine caregivers’ perceptions of sit-down family restaurants that implement healthy eating initiatives. This dissertation applies the two concepts of consumer empowerment and perceived corporate social responsibility to uncover the underlying dimensions of caregivers’ perceptions. The present study proposes that caregivers will have high willingness to visit sit-down family restaurants that provide healthful children’s foods and nutrition information. The increased willingness results from increased feelings of empowerment and perceptions of corporate social responsibility (CSR). Furthermore, the impact of healthy eating initiatives on empowerment and perceived CSR depends on how concerned caregivers are about children’s eating.

This study investigated the proposed hypotheses using a between-subjects experimental design by manipulating the existence of healthful children’s foods and nutrition information on real menus. The results suggest that caregivers have high willingness to select restaurants when restaurants provide healthful children’s menu items and nutrition information and that willingness is mediated by empowerment and perceived CSR. Specifically, the effects of healthful children’s foods are partially mediated, and those of nutrition information are completely mediated by consumer empowerment and perceived CSR. Furthermore, when restaurants provide healthful children’s foods, caregivers who are highly concerned about children’s eating tend to feel
more empowered and perceive that restaurants are socially responsible more often than those who are less concerned. Caregivers’ concerns about children’s eating do not moderate the impact of nutrition information on perceptions.

The present study’s inquiry into caregivers’ perceptions contributes to theoretical knowledge about the influence of healthy eating initiatives on consumers’ dining behaviors, especially those involving their children. Based on the findings of this study, restaurateurs might find the decision to provide healthful children’s menu items and nutrition information easier, since they will be more likely to attract caregivers and develop a socially responsible image.
### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>viii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>ix</td>
</tr>
<tr>
<td>Chapter 1 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Statement of purpose and research objectives</td>
<td>7</td>
</tr>
<tr>
<td>Research objectives</td>
<td>7</td>
</tr>
<tr>
<td>Significance of the study</td>
<td>8</td>
</tr>
<tr>
<td>Definitions of key variables</td>
<td>12</td>
</tr>
<tr>
<td>Chapter 2 Literature Review</td>
<td>14</td>
</tr>
<tr>
<td>Contextual Background</td>
<td>14</td>
</tr>
<tr>
<td>Childhood obesity and its adverse costs and health outcomes</td>
<td>14</td>
</tr>
<tr>
<td>Restaurants as an environmental context</td>
<td>17</td>
</tr>
<tr>
<td>Motivating restaurant executives to establish healthy eating initiatives for children</td>
<td>23</td>
</tr>
<tr>
<td>Influence of caregivers' behaviors on children's eating at restaurants</td>
<td>25</td>
</tr>
<tr>
<td>Conceptual Background</td>
<td>27</td>
</tr>
<tr>
<td>Nutrition information and healthful children's foods</td>
<td>27</td>
</tr>
<tr>
<td>Consumer empowerment</td>
<td>31</td>
</tr>
<tr>
<td>Perceived CSR</td>
<td>35</td>
</tr>
<tr>
<td>Caregivers' concerns for children's eating</td>
<td>39</td>
</tr>
<tr>
<td>Chapter 3 Methodology</td>
<td>43</td>
</tr>
<tr>
<td>Survey instrument</td>
<td>43</td>
</tr>
<tr>
<td>Pilot tests</td>
<td>43</td>
</tr>
<tr>
<td>Experimental stimuli</td>
<td>46</td>
</tr>
<tr>
<td>Measurements of variables</td>
<td>47</td>
</tr>
<tr>
<td>Data collection</td>
<td>50</td>
</tr>
<tr>
<td>Participants</td>
<td>50</td>
</tr>
<tr>
<td>Procedures</td>
<td>51</td>
</tr>
<tr>
<td>Statistical analysis</td>
<td>52</td>
</tr>
<tr>
<td>Chapter 4 Results</td>
<td>55</td>
</tr>
<tr>
<td>Return rate and demographic information about caregivers and children</td>
<td>55</td>
</tr>
<tr>
<td>Manipulation checks</td>
<td>62</td>
</tr>
<tr>
<td>Reliability of measurement scales</td>
<td>63</td>
</tr>
<tr>
<td>Testing of hypotheses</td>
<td>64</td>
</tr>
<tr>
<td>Mediating roles of consumer empowerment and perceived CSR</td>
<td>64</td>
</tr>
<tr>
<td>Moderating role of caregiver’s concerns for children’s eating</td>
<td>70</td>
</tr>
<tr>
<td>Ancillary analyses</td>
<td>78</td>
</tr>
<tr>
<td>Caregiver's concerns for children's eating</td>
<td>78</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1. Conceptual model of healthy eating initiatives at restaurants on caregivers’ perceptions. ............................................................. 42

Figure 2. Interaction effect of caregiver’s concerns for children’s eating on consumer empowerment. .......................................................... 74

Figure 3. Interaction effect of caregiver’s concerns for children’s eating on perceived corporate social responsibility. ........................................ 77
LIST OF TABLES

Table 1. Comparison of socioeconomic and demographic information between two different data sources. .......................................................... 58

Table 2. Number of caregivers per each experimental condition. ................................ 59

Table 3. Socioeconomic and demographic information of caregivers and children. .......... 60

Table 4. Manipulation checks using independent t-test. .................................................. 62

Table 5. Reliability test of measurement items. ................................................................. 64

Table 6. Mediating role of consumer empowerment and perceived corporate social responsibility for healthful children’s foods. ................................................................. 67

Table 7. Mediating role of consumer empowerment and perceived corporate social responsibility for nutrition information. ................................................................. 69

Table 8. Moderation role of caregiver’s concerns for children's eating between nutrition information and consumer empowerment. ................................................................. 71

Table 9. Moderation role of caregiver’s concerns for children's eating between nutrition information and perceived corporate social responsibility. ................................................................. 71

Table 10. Moderating role of caregiver’s concerns for children eating for consumer empowerment. ........................................................................... 73

Table 11. Description of consumer empowerment by healthful children's foods and caregiver's concerns for children's eating. ................................................................. 73

Table 12. Moderation role of caregiver’s concern’s for children eating for perceived corporate social responsibility. ........................................................................... 76

Table 13. Description of perceived CSR by healthful children's foods and caregiver's concerns for children's eating. ................................................................. 76

Table 14. Comparison of caregiver's concerns for children's eating. ................................. 80

Table 15. ANOVA result about possible interaction effect between healthful children’s foods and nutrition information on willingness to select restaurants. ................................................................. 82

Table 16. Calories selected by caregivers. ........................................................................... 84
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Chapter 1

Introduction

The restaurant industry faces many claims about the nutritional quality of children’s foods at restaurants, as the rate of childhood obesity has been continuously increasing. Even though the pace of increase has leveled off in recent years, childhood obesity rates continue to be of public health concern. Approximately 17% and 32% of children and adolescents aged 2-19 years are obese or overweight, respectively (Ogden & Carroll, 2010; Ogden, Carroll, Curtin, Lamb, & Flegal, 2010).

Much of the concern about childhood obesity stems from both immediate and long-term health implications. As immediate adverse health outcomes, obese children display higher risk factors for cardiovascular disease, type 2 diabetes, bone and joint problems, sleep apnea and social and psychological problems (Daniels et al., 2005; Dietz, 1998; Freedman, Mei, Srinivasan, Berenson, & Dietz, 2007; Strauss & Pollack, 2003). As long-term health outcomes, overweight and obese children tend to be at higher risks to be obese adults and finally have higher risks to have adult diseases resulting from obesity. The probability of becoming overweight or obese in adulthood is rising as children’s BMI increases (Freedman et al., 2005). Additionally, the cost of obesity would be a big concern for federal governments because costs are approaching $300 billion a year according to an actuarial report. Even though this report did not find evidence of increased costs for childhood obesity, authors asserted that increasing childhood obesity could lead to even higher future costs based on previous studies that showed a clear
relationship between juvenile obesity conditions and medical problems in adulthood (Society of Actuaries, 2010).

Given the evidence, one can easily conclude that childhood obesity should be prevented in the perspective of improving the health status of an individual’s whole life as well as childhood health status. Also, prevention of childhood obesity will hugely reduce the cost of obesity, for example, medical care and loss of productivity in their adulthood.

Restaurants play an important role in promoting the prevalence of childhood obesity, as one factor in their physical environment. Available foods at restaurants affect the quality of consumption in negative ways, for example, increasing calorie consumption (Story, Kaphingst, Robinson-O'Brien, & Glanz, 2008). Several studies (Nader et al., 2012; Trasande et al., 2009) assert the importance of restaurant settings to prevent obesity through providing people and especially children with more chances to have healthier foods. The importance of healthy eating environments at restaurants seems to have been increasing in parallel with the growing rate of food-away-from-home (FAFH). Children’s increasing energy intake can be correlated with an increase in food eaten away from home, mainly from store-bought foods and fast foods followed by restaurant and school foods (Drewnowski & Rehm, 2013; Poti & Popkin, 2011).

The poor nutritional quality of FAFH is debated, with concerns on the high amount of calories, fat, and sodium and large portion sizes. According to a current report assessing children’s menus at restaurants, few healthful options are available, and most restaurants do not provide caregivers with nutrition information nor identifiable notifications (Krukowski, Eddings, & West, 2011). Wu and Sturm (2012) showed that
only 8-11 percent of main entrees of children’s menus met recommended National Restaurant Association [NRA] guideline of Kids Live Well criteria (NRA, 2012a) or the USDA guideline for children consuming one meal (USDA, 2010). Thus, available healthful kid's menus at restaurants need consideration as a primary solution. As a part of strategies to build up healthy eating environments for children, a report from the White House Task Force on Child Obesity (Executive Office of the President of the United States, 2010) stated that menu labeling is an important tool for empowering caregivers at restaurants, who can then select more healthful foods for their children. Mothers read more food labels these days than they ever before when buying foods at grocery stores (Irwin, 2012). A recent study found that 63% of moms made changes in their kids’ eating habits during the past year and 70% want to see healthy options on kids’ menus (Cobe, 2013). Thus, it is a sound public health strategy to provide healthful children’s foods with nutrition information at restaurants, which would increase healthier food choices and finally help alleviate the rise in obesity while improving children’s diet quality.

This study focuses on caregiver's reactions toward restaurants rather than children's one. Even though children have the intention to choose foods for themselves, caregivers still influence their food selection by helping children or selecting foods directly for children to eat. It is questionable that whether or not providing healthful children's menus and nutrition information on menu at restaurants affects caregivers' perceptions of restaurants. Restaurateurs may spend more efforts to institute menu changes when seeing positive reactions of caregivers. Therefore, it is prudent for both nutritionists and restaurant executives to investigate caregiver’s perceptions of such healthy eating initiatives (healthful children's foods and nutrition information) at
restaurants and discover the conceptual basis of these reactions. In spite of caregivers’
growing concerns about childhood obesity and public health demands for healthful eating
environments for children, little research has investigated the flow of caregivers’
perceptions after being exposed to such strategies and the effects on caregivers’
intentions toward frequenting such restaurants, both empirically and theoretically.

To uncover the underlying dimensions of caregivers’ reactions toward healthy
eating initiatives at restaurants, this study applied the two major concepts of consumer
empowerment and perceived corporate social responsibility. The concept of
empowerment has been widely used in the behavioral and social sciences. People feel
increased empowerment with the rights of choices and information (Spreitzer, 1996). Fuchs, Prandelli, and Schreier (2010) mentioned that customers are empowered when they have more information and choices. Providing healthful options in addition to conventional items and presenting nutrition information in addition to general food
descriptions are to be considered as tools of empowerment because customers have more choices and more information. Thus, this study proposed that provision of nutrition information and healthful children’s foods will affect caregivers’ feelings of
empowerment over restaurant selection experiences.

In the service industry, empowering consumers can be used as a strategy to
increase customer satisfaction. Consumer empowerment is perceived as a benefit to
marketers because consumers’ needs are better satisfied (Kreps, 1979). Sawhney, Verona, and Prandelli (2005) mentioned that empowered customers might be more willing to buy products through a closer relationship with the underlying products. Few studies
(Cranage, Conklin, & Lambert, 2004, 2006) applied the concept of consumer
empowerment in foodservice settings and assumed nutrition information as a tool of empowerment because it is additional information. They found that providing nutrition information increased customer repurchase intentions and satisfaction with restaurants. Therefore, empowered caregivers potentially will show positive reactions to restaurant selection experiences.

The other concept used in this study is the perception of corporate social responsibility. The food industry has faced many substantial claims from the publicizing of corporate social responsibility issues, which include environmental, ethical, or health related issues. Various initiatives of social responsibility, for example, reducing energy and water use, have been implemented successfully in the foodservice industry (Maloni & Brown, 2006). Customer health and safety comprise one very important segment of the CSR dimensions in the food supply chain. Indeed, food retailers have provided healthful items and nutrition information as marketing strategies related to corporate social responsibility (CSR) initiatives (Jones, Comfort, & Hillier, 2006). In the current situation of increasing concern about childhood obesity in the USA, the foodservice industry, especially restaurants with children's menu items, needs to take CSR actions targeting the prevention of childhood obesity. Providing healthful children's foods with nutrition information can be considered effective CSR actions. Despite several studies (Hu, Parsa, & Self, 2010; Jang, Kim, & Bonn, 2011) that investigated consumers’ perceptions of green restaurants including green foods, no studies concluded whether or not providing healthful items and nutrition information were considered CSR actions. Thus, investigating nutrition information and healthful menu items in relation to consumers’ perceived CSR about the restaurant was a suggested course of inquiry. This study
investigated if these actions caused caregivers to perceive that restaurants with these goals are socially responsible.

Several studies suggested that there is a positive relationship between company CSR actions and consumer attitudes toward that company and purchase intentions of their products (Brown & Dacin, 1997; Scholder, Mohr, & Webb, 2000). Royne and Levy (2008) suggested companies provide healthy eating initiatives as an effective marketing strategy so that customers have positive attitudes. Therefore, this study assumed that caregivers' perceived CSR resulted from healthful children's foods and nutrition information influenced their behavioral intention.

General eating behaviors are affected by individual’s socioeconomic and demographic factors such as age, gender, education, and working status, and health related factors including health-consciousness, past healthy eating behavior, motivation, or nutrition knowledge (Bower, Saadat, & Whitten, 2003; Cranage, Conklin, & Lambert, 2006; Drichoutis, Lazaridis, Nayga, Kapsokefalou, & Chryssochoidis, 2008). It was shown that parents with high income and professional jobs provided more healthful foods to children (Honajee, Mahomoodally, Subratty, & Ramasawmy, 2012). In the context of caregivers' behavior towards children, this study considered a potential moderating role of caregivers’ concerns for children’s eating between provision of nutrition information and healthful children’s foods on feelings of empowerment and perception of corporate social responsibility. For example, it is assumed that highly educated and high-income caregivers are more likely to be concerned about their children’s dietary quality and react more strongly to healthy eating initiatives. Caregivers’ concerns for children’s eating
would be the most appropriate variable as a proxy of all above socioeconomic and
demographic and health related factors.

**Statement of purpose and research objectives**

This study aimed to explain caregivers’ responses towards sit-down family
restaurants with nutrition information and healthful children’s menus, incorporating
consumer empowerment and perceived corporate social responsibility as mediators,
caregivers’ concerns for children’s eating as a moderator and finally examine caregivers’
willingness to select such restaurants when eating out with their children.

This study developed research ideas in the context of a sit-down family restaurant
for the following reasons. First, previous studies (Serrano & Jedda, 2009; Story et al.,
2008) comparing children’s foods between fast food and sit-down family restaurants
showed worse nutritional quality of children's foods in sit-down family restaurants.
Second, fast food restaurants are already under the regulation about presenting calorie
information as a chain restaurant (Democratic Policy Committee, 2010). More attention
needs to be focused on children’s foods at sit-down family restaurants.

**Research objectives**

Research objectives of this study were:

(1) to examine if the effects of healthful children’s foods and nutrition
information increase caregivers’ willingness to visit restaurants with such initiatives;
(2) to investigate if the above relationships are mediated by caregivers’ feelings of empowerment and their perception of the restaurant’s corporate social responsibility (CSR);

(3) to investigate if the impact of serving healthful children’s foods and presenting nutrition information on caregivers’ feelings of empowerment and perception of corporate social responsibility toward restaurants are different according to caregivers’ concerns for children’s eating.

**Significance of the study**

The public desire for healthier eating environments for children has been increasing. A pilot study (Lee, Conklin, & Bordi, 2012) showed caregivers consider children’s foods at restaurants to be typically high in calorie and fat, thus, need to be more healthful. The restaurant industry has been calling for changes in their menus in an effort to meet increasing demands for healthful environments for children at restaurants. This study suggested two changes for children's menus and investigated the impacts of these changes on caregiver's perceptions of restaurants. Serving healthful children's menu items and presenting nutrition information are both mentioned often as major problems in academic studies and magazines. Thus, these two changes are suggested as ways to bring a healthier eating environment to restaurants that cater to children.

Among the top 20-ranked food items as full-service restaurant trends reported by National Restaurant Association (2012b), four items are related to children’s menus; Healthful Kids’ Meals is third, Children’s Nutrition is sixth and Whole Grain Items in
kids’ meals is tenth, Fruit/Vegetable Children’s Side Items is ranked eighteenth. As part of the strategies to increase healthy eating environments for children, a report from the White House Task Force on Child Obesity (Executive Office of the President of the United States, 2010) stated that menu labeling is an important tool for empowering caregivers at restaurants. However, no published studies in literature have investigated the effect of healthy eating initiatives at sit-down family restaurants on caregivers’ perceptions. Consequently, whether or not these initiatives lead caregivers to frequent those restaurants with their children is still unknown. An examination of the flow of caregivers’ perception toward restaurants with such activities will enrich not only the hospitality literature, but also provide restaurant managers with practical implications.

This study has significant implications both theoretically and managerially. First, this dissertation contributed to knowledge about caregiver’s perceptions of restaurants with healthy eating initiatives by developing a theoretical flow while incorporating concepts of consumer empowerment and perceived corporate social responsibility. Even though it’s logical that caregivers have favorable attitudes towards healthful eating environments for children, no published studies have investigated how caregivers develop their own perceptions and intentions towards such restaurants. The present study’s inquiry into caregiver’s perceptions advances theoretical knowledge about the influence of healthy eating initiatives on consumer’s dining behaviors, especially those involving their children.

Second, this research contributed to the literature of consumer empowerment and perceived corporate social responsibility by confirming the existence of such constructs in a different setting, specifically at family restaurants. Those constructs have not been
actively investigated in foodservice settings. Few studies have applied the concept of empowerment in a nutritional information context (Cranage et al., 2006) and also the issue of corporate social responsibility to both nutrition information and healthful food contexts (Jones et al., 2006). However, Cranage et al. (2006) simply assumed consumer empowerment as a potential factor without an empirical examination while Jones et al. (2006) did not frame nutrition information and healthful foods as CSR initiatives. This present study theoretically consolidates knowledge about consumer empowerment and corporate social responsibility.

Third, this study offers more information about individual effects of providing nutrition information and healthful foods by using a factorial experimental design. Previous studies used a field experimental design or a survey without a factorial design, which did not allow examinations of individual or interaction effects of two different independent variables. By applying the factorial experimental design, this study theoretically solidified our understanding about individual effects of such healthy eating initiatives.

This research also contributed managerially to the foodservice industry. First, this study shows how such healthy eating initiatives at restaurants influence caregiver's visit intentions and perceptions, such as feelings of empowerment and perceived CSR. Glanz and colleagues (2007) showed that increasing profit margins are the primary factor motivating restaurant executives to provide healthy options. In practice, when deciding profitability or social responsibility for such initiatives, restaurant managers may make a decision on serving nutrition and healthful children’s foods to accomplish both goals, based on this current study.
Second, this study’s focus on nutrition information, which has currently been legislated by government, can help restaurateurs prepare their position to follow the law. Change of menu items towards healthful options is one concern of restaurant executives when implementing mandatory menu labeling regulation, because this takes much time and money. Bruemmer, Krieger, Saelens, & Chan (2012) showed that restaurants are taking efforts to follow the law, for example, by decreasing portion size and by substituting ingredients to reformulate menu items after adopting the menu labeling law. By showing positive effects of providing both nutrition information and healthful foods, this study encourages restaurateurs to follow an unavoidable government law while maintaining or increasing restaurant sales and reputation.

Third, this dissertation provides restaurateurs with more tangible outcomes by focusing on consumers' willingness to visit their restaurants. An investigation of restaurant visit intention is a more visible outcome than looking at whether caregivers select healthful children’s foods. Previous studies (Burton, Creyer, Kees, Huggins, 2006; Kozup, Creyer, & Burton, 2003) investigating the effects of nutrition information and healthful foods have focused mainly on the foods per se, for example, whether customers have a favorable attitude towards the healthful items or not. Restaurateurs would be more interested in whether caregivers visit or not, regardless of which food they select, because visiting restaurants precedes selection of foods.
Definitions of key variables

**Healthful children’s foods** - With concern on childhood obesity, the criteria for healthful children’s foods were developed based on lower calorie and lower fat content. This study considered recommendations of Kids Live Well and one-third of the dietary guidelines for Americans 2010 (Wu and Sturm, 2012): less than 633 kcal, less than 35% of energy from fat, less than 770mg of sodium for a set of meal. Scenarios simulating healthful children’s foods provide foods satisfying this criterion.

**Nutrition information** - A pilot study of this main study (Lee, Conklin, & Bordi, 2012) showed that caregivers are most interested in fat, followed by sugar, calories, and sodium content of children’s menu items. Sugar information was not included in the criteria of healthful children’s foods. Thus, this study defined nutrition information as information about how much fat, calories, and sodium are contained in each food. This study provided these three points of information on scenarios simulating nutrition information.

**Consumer empowerment** - This study defined empowerment as caregivers’ increased sense of control over restaurant selection experience from additional options and information. This study measured caregivers’ feelings of empowerment using four items on the research instrument.

**Perceived corporate social responsibility** - This study defined perceived corporate social responsibility as the extent to which caregivers perceive that the restaurant acts responsibly for society. This study measured caregivers’ perception of corporate social responsibility using four items on the research instrument.
Willingness to select the restaurants - This variable was one important dependent variable in this study. This current study measured the extent to which caregivers want to select the restaurants with healthy eating initiatives when eating out with their children, by using four items on the research instrument.

Caregivers’ concerns for children’s eating - This variable was a moderator that changes the effects of nutrition information and healthful children’s foods on caregivers’ feelings of empowerment and perception of corporate social responsibility. This study defined this variable as the extent to which caregivers’ concerns about the overall influence of children’s eating on children’s health status, which is divided into three categories; a) caregivers’ perceived responsibility for meal consumption, b) caregivers’ concern about a child’s weight, and c) caregivers’ restriction of food selection. This current study measured each category by using three items on the research instrument.

Sit-down family restaurants - This study defined a sit-down family restaurant using Wikipedia (2013). A sit-down family restaurant in this study means a casual dining, family-style restaurant with table service, rather than a fast food restaurant.
Chapter 2

Literature Review

This chapter begins with research background about childhood obesity and its negative health and economic impacts. Factors related to children’s menus at restaurants and caregivers’ behaviors are explained. More healthful children’s menus with nutrition information at restaurants are suggested as a way to help prevent childhood obesity and improve children’s health status. Factors that may convince restaurant executives to provide healthful children’s menus with nutrition information are described, specifically caregivers’ feelings of empowerment and perceptions of corporate social responsibility attributed to such restaurants.

Contextual Background

Childhood obesity and its adverse costs and health outcomes

Over the past 20 years, there has been a dramatic increase in obesity in the United States and rates remain high. More than one-third of adults in the United States (35.7%) are obese. As of 2008, adult obesity overtook smoking as America’s biggest burden of disease (Jia & Lubetkin, 2010). Historically, the number of obesity-related quality-adjusted life-years (QALYs) lost was smaller than the smoking-related QALYs lost, meaning that smokers experienced higher morbidity and mortality than obese people. However, the number of obesity-related QALYs lost has consistently increased due to the increasing prevalence of obesity, and is now slightly higher than number of smoking-
related QALYs lost. The obese lose more QALYs through disability and activity limitation.

The obesity issue is serious, not only for adults, but also for children. In childhood, obese or overweight status is defined based on body mass index (BMI), which is calculated using a child’s weight and height. An overweight child’s BMI is at or above the 85th percentile and lower than the 95th percentile for children of the same age and sex. An obese child’s BMI is at or above the 95th percentile for children of the same age and sex (Barlow, 2007). The continuously increasing rate of childhood obesity is a serious health issue for children and adolescents. Even though the pace of increase has leveled off in recent years, childhood obesity rates have remained steady. Approximately 17% and 32% of children and adolescents aged 2-19 years are obese and overweight, respectively (Ogden & Carroll, 2010; Ogden et al., 2010). These rates as of 2007-2008 are twice to three times those of three decades ago, 1976-1980. The percentage of obesity increased from 5.0% to 10.4% among preschool aged children, from 6.5% to 19.6% among children aged 6-11, and from 5.0% to 18.1% among adolescents aged 12-19. Based on past obesity rate trends, Wang, Orleans, and Gortmaker (2012) predicted that youth aged 2-19 years may weigh 1.8 kg more in 2020 than the average weight in 2007-2008 and asserted the necessity of aggressive efforts to reduce daily energy intake.

There are several reasons why researchers and practitioners need to pay attention to childhood obesity. First, an obese population influences a nation’s economy in a negative way through increasing medical costs. The cost of obesity is approaching $300 billion a year (Society of Actuaries, 2010). The cost increases include an increased need for medical care, loss of worker productivity, higher rates of death, loss of productivity
due to disability of active workers, and loss of productivity due to total disability. The report did not find evidence of increased costs for overweight or obese children because the increase in medical costs associated with obesity occurs primarily at older ages. However, they assumed that a magnitude of costs for overweight and obese children would be significant, because a clear relationship between childhood obesity conditions and future medical problems has been demonstrated. Obesity tends to continue into adult life, so the current increase in childhood obesity can be expected to lead to even higher future medical costs.

Above all, obese populations are suffering from health-related issues, including physical and psychological problems. The concern about childhood obesity centers on both immediate and long-term health implications. Adverse health outcomes, such as high risk factors for cardiovascular disease, type 2 diabetes, bone and joint problems, sleep apnea and social and psychological problems have been examined (Daniels et al., 2005; Dietz, 1998; Freedman et al., 2007; Strauss & Pollack, 2003). In a study with a population-based sample (Freedman et al., 2007), 70% of children with a BMI higher than the 95th percentile had at least one risk factor for biochemical abnormalities. Type 2 diabetes has increasingly occurred in adolescents, typically among those with higher BMIs (Daniels et al., 2005). A much larger percentage of obese children have bone and joint problems, such as slipped capital epiphyses and Blount’s disease, compared with normal weight children (Loder, Aronson, & Greenfield, 1993). Sleep disorders affect obese children as a representative outcome of pulmonary consequence (Must & Strauss, 1999). Depression, which is a representative example of psychological outcomes, has been found to have a direct relationship with BMI level (Daniels et al., 2005). Sometimes
psychological difficulties lead to obesity and sometimes vice versa (Dietz, 1998; Strauss & Pollack, 2003). For example, overweight children have fewer friends than normal weight children.

There are also several long-term impacts of childhood obesity. Childhood obesity leads to a higher risk for obesity in adulthood, and obese adults experience increased risk of disease. The probability of becoming overweight or obese in adulthood increases with a child’s BMI (Freedman et al., 2005; Guo, Roche, Chumlea, Gardner, & Siervogel, 1994). Reilly and Kelly (2011) reviewed 11 studies and found that overweight and obese status in childhood and adolescence appeared to have adverse consequences on premature mortality and physical morbidity in adulthood through increasing risks of diabetes, hypertension, heart disease and stroke, among others.

Given the evidence, we can easily conclude that childhood obesity should be prevented, not only to improve health status in childhood, but over the lifespan. Preventing childhood obesity will have a positive impact on the economy and improve an individual's life quality.

**Restaurants as an environmental context**

Obesity results from an imbalance between energy consumption and energy expenditure. Children are exposed to high calorie food items and less physical activity. Many studies (Butte, 2009; Story, Sallis, & Orleans, 2009; Trasande et al., 2009) have investigated determinants of childhood obesity, which include dietary practices, environmental influences, familial impact, food security and financial security, and
physical activity. Although it has been proven that many factors promote obesity, most preventive interventions have focused mainly on individual factors or school foodservice and fast foods as environmental factors. This study focuses on the importance of environmental factors and highlights the necessity of interventions in restaurant environments, more specifically at sit-down family restaurants for several reasons: the increasing rate of children dining outside the home, poor nutrition quality of children's foods offered by restaurants, and even poorer quality of children's foods at sit-down family restaurants.

Physical eating environments have been found to contribute to the increasing rate of obesity, over and above factors to specific to individuals. Story and her colleagues (Story et al., 2008) suggested a large ecological system showing what factors influence an individual’s eating. The system consists of individual factors and environmental contexts comprised of social, physical, and macro-level environments. Restaurants are considered to be one of the physical environments, and to play an important role in providing foods for people to eat. A life-course approach to childhood obesity designed by Trasande and colleagues (2009) situated the local food environment, including restaurants, between micro- and macro-level factors. Micro-level factors are individual factors such as genes, appetite and metabolism, and macro-level factors are community-level concerns such as social relationships, physical surroundings, and the natural environment. This study stressed the role of environmental factors, for example, restaurants, in the development of obesity in the modern environment.

Nader et al. (2012) stressed a systematic approach focusing on two points: beginning interventions during the early stages of development and considering both an
individual’s health behavior and environmental changes in communities. At the top of
their model, they placed local, state and national policies, and below they placed physical
environment support, including childcare centers/schools and food access, and social
environment support, including institutional norms and culture. Each factor is correlated
either one-way or two-ways. These authors highlighted the importance of restaurants in
preventing obesity by providing people, especially children, with more chances to eat
healthier foods outside the home. The exposure of children to a more healthful eating
environment is very important in terms of reducing caloric intake and improving dietary
quality. In terms of improving the health status of all people through better nutrition, not
just small groups of people who are highly health conscious or at high risk, restaurant-
based environmental interventions can increase the availability of and access to healthful
foods.

Improving restaurant environments is important, not only because it provides
people with food, but also because people consume restaurant foods more often than ever
before. Concerns about the food offered by restaurants have been increasing in parallel
with the growing consumption rate for food-away-from-home (FAFH). A USDA
research team (Mancino, Todd, Guthrie, & Lin, 2013) supported the causal relationship
between food obtained from fast food outlets, restaurants, and other commercial sources
and increased caloric intake and lower diet quality. They found that the caloric intake of
children who consume food prepared away from home is higher than that of children who
consume meals and snacks prepared at home. The USDA (2013) reported that almost half
(48.7%) of total food expenditures in households were spent on FAFH, as of 2011.
Like adults, American children also are dining out more often than they did almost 30 years ago (Lin, Guthrie, & Frazao, 2001). Children’s energy consumption from FAFH has been gradually increasing. Children aged 2-17 years old obtained 12-22% of their daily calories from food away from home in 1977-1978, compared with 24-35% in 1994-1996 (Guthrie, Lin, & Frazao, 2002). Beginning in 1994, no further increase occurred until 2006.

However, energy sources of FAFH have shifted with mixed results (Drewnowski & Rehm, 2013; Poti & Popkin, 2011). The percentage of energy intake from school foods has decreased; however, those from fast food and restaurant foods has increased. Children’s increasing energy intake is correlated with an increase in energy eaten away from home, mainly from store-bought foods and fast foods, followed by restaurant and school foods. A study by Powell and Nguyen (2012), found that when children eat out at full-service restaurants, their daily total energy intake increases by 160.5 kcal on average. Increased energy intake at full-service restaurants was highly associated with the intake of soda and sugar-sweetened beverages. Consumption of added sugars contributes to children’s high-energy consumption (Slining & Popkin, 2013). Among children in the United States aged 2-18 years, daily intake of energy from added sugars decreased between 1994 (39%) and 2010 (33%). However, mean intakes are still exceeding recommended limits. Total solid fat and added sugar intake should be limited to 5-15% of total energy intake. The major source of added sugars is sugar-sweetened beverages, which are major beverage options at restaurants. Therefore, nutritionists need to be aware of the important role of food-away-from-home in children’s diet quality and health status.
The poor nutrition quality of FAFH has been debated, with concerns over high amounts of calories, fat, and sodium and large portion sizes. Most efforts on FAFH have focused on fast food with relatively little attention paid to foods at sit-down family restaurants. The top fast food restaurants in the United States based on sales volume (Restaurants and Institutions, 2009), have begun to take action on their kids’ meals. For example, McDonald’s, Burger King and Wendy’s added items containing apples, and fat-free or low-fat milk products, and recently KFC introduced kids’ meals with green beans, grilled chicken and applesauce. The fast food industry also is affected by the law on menu labeling, which requires restaurants with more than 20 units to provide calorie information on menu boards (Democratic Policy Committee, 2010). The U.S. Food and Drug Administration (2011) announced a Federal Register enabling restaurants and similar retail food establishments with fewer than 20 locations to voluntarily follow the new federal menu labeling requirements. Thus, sit-down family restaurants with a single independent unit can “opt in” to the nutrition labeling law. The nationwide campaign, “Let’s Move” launched by First Lady Michelle Obama, also asserted the necessity of nutrition labeling to empower caregivers to make healthy choices for their children. However, until now, no studies have paid attention to nutritional information at sit-down family restaurants. More attention must be paid to sit-down family restaurant foods due to poorer nutritional quality and larger portions sizes than what is provided at fast food restaurants.

According to a recent report assessing children’s menus at restaurants including table service and fast food, few healthful options were available, and most restaurants did not provide caregivers with nutrition information nor did they identify healthier options
(Krukowski et al., 2011). Reeves, Wake, and Zick (2011) showed that table service restaurants provided significantly less nutrition and portion size information, bigger portion sizes than fast food restaurants, and food items in both types of restaurants did not follow the nutrient-based standards for lunch for primary school children. A few studies (Serrano & Jedda, 2009; Story et al., 2008) comparing the nutrition quality of fast food and table service meals have even shown that meals at table service restaurants tend to be less healthful than fast food. This implies a greater percentage of calories from fat, larger portion sizes, and more total calories for children’s meals at table service restaurants than fast food restaurants. Wu and Sturm (2012) evaluated chain restaurant menus including children’s menu items from the top 400 chain restaurants in the United States as of 2009 and showed that only 8-11% of main entrees of children’s menus met the recommended Kids Live Well criteria or one-third of the USDA guidelines. In general, family-style restaurant menu items consistently had significantly higher levels of energy, fat and sodium compared with fast-food restaurants. Thus, it would be of public health benefit to provide healthier kids menus at sit-down family restaurants, which would increase healthier food choices in restaurants and finally help alleviate the rise in obesity by improving diet quality.

The National Restaurant Association (NRA) encourages restaurants to voluntarily participate in the Kids Live Well program by providing healthful children’s menus with fruits, vegetables, whole grains, etc. In addition, the NRA conducted an industry survey about future food trends. They reported that buying locally and serving children responsibly were the top trends in 2012, which includes serving locally sourced meats and seafood and locally grown produce, providing healthful kids’ meals, hyper-local
sourcing, and focusing on sustainability and children’s nutrition. However, it is still doubtful if restaurants will change menus based on this trend, because Wu and Sturm (2012) did not show a substantial percentage of healthful children’s menus. The Center for Science in the Public Interest (2013) assessed the nutritional quality of kids’ menus at the top 41 chain restaurants against the Kids Live Well standards. The result found that 91% of kids’ menus did not meet the Kids Live Well standards. Even though the overall percentage of meals meeting the standards increased from 2% in 2008 prior to the launch of the Kids Live Well program, to 3% in 2012, the year of the program’s launch, the compliance rate remains very low.

**Motivating restaurant executives to establish healthy eating initiatives for children**

Motivating restaurant executives to provide healthful children’s menus is essential to creating healthy eating environments at restaurants. Restaurateurs have a primary business goal of profit rather than concern for their customers' health. Glanz and colleagues (2007) showed that a profit margin is the primary factor motivating restaurant executives to provide healthy menu items. Economos et al. (2009) developed a community-based restaurant initiative to increase the availability of healthy menu options and tried to convince restaurants to participate in this program. Restaurants needed to offer smaller-sized portions, fruits and vegetables as side dishes, and low fat or nonfat dairy products. The research team found that restaurants hesitated to participate due to concerns about potential profit losses through decreased sales and increased expenses associated with altering menus. Restaurateurs tended to show interest when seeing
potential advantages to the restaurant and publicity. Also, being perceived as socially responsible and as caring about community health is another important incentive. If restaurant decision-makers believe they can achieve potentially greater sales and a socially responsible image from offering healthier kids’ menus, they might consider providing them.

Royne and Levy (2008) found that if marketers implemented strategies of providing health products with effective marketing communication strategies, they could expect greater profits while engaging in socially responsible activities. It was found that restaurant chains including both quick service and sit-down restaurants achieved better business results by selling lower-calorie servings (Hudson Institute, 2013). The institute analyzed sales of lower-calorie menu items in 21 national chain restaurants. Lower-calorie menu items satisfied calorie criteria (i.e., a side dish item with less than or equal to 150 calories). Restaurant chains that increased lower-calorie items recorded increases in overall food servings and sales, while other chains without lower-calorie items recorded declines. Restaurants mentioned that they were trying to please the “health seeker” group by offering healthier foods (Glanz & Hoelscher, 2004). Therefore, to avoid losing caregivers with high concerns about children’s health and demands for health initiatives for children, restaurants could consider offering healthier foods on children’s menus. In sum, one barrier to healthier menu offerings was uncertain consumer demand. Thus, discovering how frequently caregivers would visit restaurants with healthy eating initiatives for children is needed to assess a potential increase in sales and profits before convincing restaurant executives to provide such initiatives.
Influence of caregivers' behaviors on children's eating at restaurants

It is possible to debate how much caregivers influence food selection for their children at restaurant settings. On the one hand, people argue that even though caregivers know what foods are good for children, they do not want to create an argument and noise with children at restaurants, so they select their children's favorite foods or allow children to select foods by themselves to maintain the peace. Sometimes, caregivers reward their children with foods that are not normally allowed at home. On the other hand, people say that even though caregivers do not select exactly what they want their children to eat, they can help or advise children. One assertion on this side is that young children are accompanied by caregivers when eating at restaurants and that caregivers have the power to decide where their children eat. Past research (Isler, Popper, & Ward, 1987; Rust, 1993) has shown that caregivers yield to children’s food purchase requests 45% to 65% of the time. This means that half of caregivers refuse children’s requests in grocery stores. Unfortunately, these studies were conducted a while ago and not in restaurant settings.

The relationship between parental feeding style and childhood obesity has been actively studied. Parents influence children’s eating behavior from birth. In addition, parental feeding has been shown as being related to children’s weight status (Farrow & Blissett, 2008; Ventura & Birch, 2008). Farrow and Blissett (2008) found a causal relationship between controlling feeding practices and children's weight from a 3-year longitudinal study. They measured children's weight at 1 year and 2 years, and child feeding practices including maternal pressure to eat, restriction, and monitoring. The longitudinal study showed that when mothers exhibited pressure to eat and restriction at 1
year, their children weighed less than their uncontrolled counterparts. Ventura and Birch (2008) reviewed articles focusing on the association between parenting and children's eating and found causal evidence that parenting affects children’s eating habits, and consequently influences children’s weight. Based on these previous studies, it is assumed that parents’ or caregivers’ feeding practices at restaurants affect the weight of children as well.

Parental feeding practices in restaurant settings have not been actively studied, even though the rate of dining out is increasing. Based on the relationship between parental feeding style and children’s weight status, this study assumes that caregivers’ feeding styles when dining out would affect children’s weight status as well. For example, caregivers may restrict children from choosing high calorie items and pressure them to make healthy choices. No studies have investigated caregivers’ dining behaviors or the influence of caregivers’ behaviors on children’s food selection at restaurants. Thus, this current study is investigating caregivers’ perceptions of restaurants and dining behaviors to fill that gap in the literature.

The Institute of Medicine (2011) asserted the need for interventions early in life, because health status in early life influences future health and well-being throughout childhood into adulthood. Ventura and Birch (2008) also mentioned that childhood obesity interventions needed to target aspects of parenting. Nader et al. (2012) also proposed a systems framework to prevent obesity by targeting early life. The younger period of childhood is very important for overall health status. An understanding of caregivers’ decisions toward restaurants and food selection for their children is important for restaurant managers who want to increase family dining sales.
Conceptual Background

Nutrition information and healthful children's foods

Providing healthful options and nutritional information are important factors in improving the quality of food selection. Consumers are increasingly aware of healthy foods and paying more attention to nutrition. 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. Particularly, parents said that they feel responsible and like they are acting conscientiously when they take actions for their children’s health. Additionally, they worry more about the healthfulness of the foods and beverages they buy for their children than those they buy for themselves. More mothers are reading packaged food labels now than ever before (International Food Information Council Foundation, 2013; Irwin, 2013). One of the top 10 food trends in 2013 reported by the Institute of Food Technologists (2013) is mothers being more conscious about healthful food selections. Mothers want their kids to eat healthier food away from home and the option to choose smaller portion sizes of adult menu items for children at restaurants.

Since 1994, the Nutrition Labeling and Education Act (NLEA) has required food manufacturers to provide nutrition information on almost all packaged foods. More recently, the Patient Protection and Affordable Care Act (Democratic Policy Committee, 2010) regulated legislation regarding nutrition labeling of standard menu items at chain restaurants. 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.

Past studies (Burton et al., 2006; Dowray, Swartz, Braxton, & Viera, 2013;
Ellison, Lusk, & Davis, 2013; Glanz & Hoelscher, 2004) have focused on the empirical
perspective of nutritional information. For example, two major interests are whether
nutrition information influences customer food selections and if customers select lower
calorie items when exposed to nutritional information. Ellison, Lusk, and Davis (2013)
conducted a field experiment and found that calories ordered were lower among groups
of people who were provided with calorie information compared to the control group (no
information). In addition, menus with caloric information and traffic light symbols (e.g.,
red to avoid, green to eat and yellow to eat with caution or moderation) led customers to
select fewer calories compared to menus with only caloric information. Burton et al.
(2006) showed that consumers tended to choose lower calorie, lower fat items when
exposed to favorable nutrient information, for example, learning a food has fewer calories
than expected.

Glanz and Hoelscher (2004) reviewed studies of restaurant-based interventions to
increase fruit and vegetable intake, and found that particularly, point-of-purchase (POP)
information at restaurants had significant impact on healthful food consumption at
restaurants compared with other interventions. Another study attempted to determine the
best location of nutritional information or the most effective nutritional information
format, for example, nutritional information with only numeric value or physical activity
based menu labels. Dowray et al. (2013) compared calories ordered among four menus
with different nutritional information formats. They developed a labeling system based on the amount of physical activity (i.e., minutes or miles to walk) required to burn the calories in a menu item. Their interesting result was that the menus with caloric information coupled with miles to walk to burn those calories was the most effective in terms of reducing the number of food calories ordered.

Even in these empirical studies about nutrition information, very few studies have considered nutritional information for children’s foods. Tandon’s two studies (Tandon, Wright, Zhou, Rogers, & Christakis, 2010; Tandon et al., 2011) that examined parents’ fast food selections and nutritional information did not show congruent results. Her first study (Tandon et al., 2010) showed that in a lab setting with fast food, parents who were presented with nutritional information selected 102 fewer calories than parents who did not have access to nutritional information, indicating the effect of nutritional information on parents’ food selections. On the other hand, in another study (Tandon et al., 2011) in which field experimental studies were conducted in two different counties (nutrition label regulated versus non-regulated counties), the research results were different. Researchers found that the change in average calories ordered for children between, before and after the regulation did not differ between the two counties, even though parents saw nutrition information more than before in the regulated county. Therefore, it is questionable whether caregivers are affected by nutrition information when selecting food items for children at restaurants, even though they are asking to see nutrition information. As a result, more studies need to be conducted about caregivers’ reactions to nutrition information about children’s foods.
Most studies about healthful items and healthful children’s items also have focused mainly or only on the empirical perspective. Several exploratory studies investigated the availability of healthful foods and healthful children’s menus at restaurants (Saelens, Glanz, Sallis, & Frank 2007; Wu and Sturm, 2012). Saelens et al. (2007) developed an assessment tool to measure availability of healthy foods and healthful children’s foods at restaurants. They formed criteria for designating healthy food and beverage options by referring to government recommendations for a healthful diet. By using the criteria and the assessment tool, they found that only half of sit-down and fast food restaurants serve healthful children’s menus.

Few studies have investigated individual’s perceptions of healthful foods from a theoretical perspective. For example, Pawlak and Colby (2009) conducted a survey with African Americans to assess general beliefs or self-efficacy of healthy food. People have a belief that healthy foods help the body. Also, the results showed that high self-efficacy of eating and purchasing healthy foods is associated with disease prevention. Experimental studies in restaurant settings (Burton et al., 2006; Kozup et al., 2003) found that a customer’s attitude toward unhealthful items was worse than toward healthful items, and that their purchase intentions decreased for less-healthful items that contained more calories and fat than expected.

None of these studies, however, has focused on customers’ or caregivers’ perceptions of the restaurant itself or developed a theoretical model explaining the process of perception changes. The major factor that restaurant decision makers consider is profit margin. Caregivers’ selections of more healthful children’s menu items such as lower calorie or lower fat items are not a restaurant executive’s main concern in reality.
Therefore, more tangible outcomes of providing nutrition information and healthful children’s foods should be investigated, for example, whether these initiatives lead caregivers to visit restaurants more often, even if they do not select healthful items.

Even though Drichoutis et al. (2008) developed a theoretical model of nutrition label use, they focused only on nutrition labels of packaged food products and on determinants of nutrition label use. For example, younger females with higher nutrition knowledge and consumers who are head of the household and exercise at least once a week are more likely to consider nutrition information of food products. Researchers still do not know how customers feel about restaurants after being provided with nutrition information on healthful items. As a result, this study suggests theoretical explanations of caregivers’ perceptions after being exposed to healthful children’s foods and nutrition information, and the effects of these issues on caregivers’ behavioral intentions toward such restaurants.

**Consumer empowerment**

One concept theoretically used for nutrition information is informed choice, which elicits empowerment. Bekker, Thornton, and Airey (1999) stated, “an informed decision is defined as a reasoned choice that is made by a reasonable individual using relevant information about the advantages and disadvantages of all possible courses of action in accord with the individual’s belief.” Cranage and Sujan (2004) showed the effect of informed choice on customer loyalty, even in the case of service failure at a restaurant. According to the results, customers with informed choice placed the
responsibility for service failure on themselves, regretted their own selections, and finally were more loyal to the restaurant. Even though this study does not investigate a relationship between informed choice and empowerment, it is very meaningful to see positive effects of an informed choice.

In studies by Cranage, Conklin, and Lambert (2004, 2006), the theoretical concept of informed choice was first applied to explain how customers develop perceptions of foods with nutrition information and how customer satisfaction with a service provider changes. In the study by Cranage and colleagues (2006), customers’ satisfaction ratings were collected prior to and at the end of a 6-week period when nutrition information for entrees was posted at the serving line without any change in menu items. Customer ratings for food quality and overall satisfaction with the foodservice area were significantly higher when nutrition information was posted at the POS. In sum, the study showed that providing nutrition information increased customer repurchase intentions of food items and satisfaction with restaurants.

The interesting point was that in this field experiment, they did not alter menu items into healthful items and the only change was providing nutrition information on same food items sold exactly before the experiment. Cranage, Conklin, and Lambert (2004) asserted that the positive changes in attitude and purchase intention, even with no change in menu items, were associated with the provision of nutrition information. The existence of additional information caused customers to feel that they had an informed choice, which finally elicited empowerment through perceived control. Even though positive perception changes resulted from empowering customer decisions regarding food selection, the two studies did not investigate these specific underlying dimensions.
Therefore, this study investigates whether providing nutrition information and healthful children’s foods increases caregivers’ evaluations of the restaurants with a mediating effect of consumer empowerment. It is assumed that when customers are exposed to nutrition information and healthful items, customers can make a reasoned choice while considering advantages and disadvantages of their food selections, consequently eliciting empowerment.

Informed choice makes customers feel empowered because they have more control over their food selections when they are provided with additional information about foods. When people are given a choice, they tend to have the illusion of control by believing that their behavior controls the outcome (Langer, 1975; Langer & Rodin, 1976). Langer and Rodin (1976) conducted a field experiment to explain the effects of choice. They induced a greater sense of personal responsibility in people in an experimental group by giving people choice; on the other hand, decisions for people in the control group were made by others. The results showed that people who were encouraged to make decisions with available choices, became more active and felt happier with an increasing sense of control. Spreitzer (1996) examined the positive relationships of a wide span of control, access to information and empowerment through a survey with middle managers. People feel increased empowerment when they have a choice and when information is provided.

The concept of empowerment has been widely used in the behavioral and social sciences, mainly in the context of organizational behavior. Empowerment in the organization context is defined as “a process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness
and through their removal by both formal organizational practices and informal techniques of providing efficacy information” (Conger & Kanungo, 1988). Empowering employees has been considered a principal component of managerial effectiveness. In the organization setting, empowerment is processed in five stages: diagnosing a psychological state of powerlessness, applying managerial strategies and techniques, providing self-efficacy information to employees, strengthening individual expectancy or belief in personal efficacy, and leading to behavioral effects.

In the service industry, however, consumer empowerment has not been clearly defined. In general, consumer empowerment is about increasing consumer value by providing additional access, information, and educational materials to wherever the consumer is located. Pires, Stanton, and Rita (2006) examined consumer empowerment as a process requiring the granting of power or authority to make decisions and that marketing power is shifting from suppliers to consumers because consumers have been increasingly using information and communication technologies. Consumer empowerment is considered a CRM (Cause-Related Marketing) strategy because it is a process whereby consumers are empowered by businesses to determine what they are interested or not interested in and what kind of information and level of service they want (Pires et al., 2006). In sum, when consumers have control over a choice with information about the situation, consumer empowerment is generated. As a long-term consequence of consumer empowerment, consumers are more satisfied with outcomes (Wathieu et al., 2002).

Based on above literature, this study assumes that providing healthful children's menus in addition to conventional items and presenting nutrition information in addition
to regular food descriptions will lead caregivers to feel increasingly empowered. Consequently, empowered caregivers will have positive perceptions of restaurants with healthful children's foods and nutrition information.

*Hypothesis 1*: Provision of healthful children’s foods in addition to conventional foods will increase caregivers’ feelings of empowerment.

*Hypothesis 2*: Provision of nutrition information on children’s foods will increase caregivers’ feelings of empowerment.

*Hypothesis 3*: Increased caregivers’ feelings of empowerment will positively influence caregivers’ willingness to visit the restaurants.

**Perceived CSR**

Corporate social responsibility (CSR) has been defined in different ways by significant researchers. The most commonly and widely used definition of CSR was developed by Carroll (1983), who provided a four-part definition: “CSR involves the conduct of a business so that it is economically profitable, law abiding, ethical and socially supportive...Thus, CSR is composed of four parts: economic, legal, ethical and voluntary or philanthropic” (p. 604). Maloni and Brown (2006) developed a comprehensive framework of supply chain CSR in the food industry because the food industry has received much public attention about corporate social responsibility issues. The dimensions of CSR in the food supply chain are composed of animal welfare,
biotechnology, labor and human rights, procurement, fair trade, community, environment, and health and safety.

Considering customers’ health and safety is one important segment of CSR dimensions in the food supply chain. Maloni and Brown (2006) stressed this segment by considering customers’ increasing awareness of healthy lifestyles and increasing concerns about obesity. Examples of CSR in restaurants include supporting healthier eating environments with new food offerings and enhanced product labeling. Indeed, food retailers have used the provision of healthful items and nutrition information as a marketing strategy related to CSR initiatives (Jones et al., 2006). Fast food and coffee restaurants such as McDonald’s and Starbucks, have responded to consumer demand for healthier products. McDonald’s (2011), which has faced critical complaints about its contribution to childhood obesity, is taking CSR actions in five key areas: nutrition and well-being, sustainable supply chain, environmental responsibility, employee experience, and community. For the first area, nutrition and well-being, they increased fruit, vegetable, and dairy options on children’s menus. Schroder and McEachern (2005) investigated whether CSR initiatives affect young consumers’ fast food purchasing in the United Kingdom. The study found that young consumers who visited fast foods restaurants were skeptical about the motivations underlying CSR initiatives at McDonald’s and KFC; however, at the same time they expected fast food companies to be involved in healthy eating initiatives.

In sum, the foodservice industry needs to pay attention to consumer health and safety. Because of increasing concern about childhood obesity in the United States, the foodservice industry may need to consider more CSR initiatives to prevent childhood
obesity. To date, there have only been anecdotal instances of customer reactions to CSR actions in the foodservice industry. Thus, this study examines whether or not providing more healthful menu items and presenting nutrition information causes customers, especially caregivers, to perceive them as CSR actions.

CSR initiatives such as providing healthy alternatives in the food industry support not only customers’ healthy lifestyles, but also the foodservice industry’s healthy profits. Economos et al. (2009) showed that restaurants want to be perceived as socially responsible when providing healthful kid’s menus and highlighting healthier options on a menu boards. The research team developed a community-based restaurant initiative to increase the availability of healthy menu options. Available restaurateurs in the project participated in the initiative to be perceived as socially responsible and as caring about community health. Creating a socially responsible image is one way restaurants can profit by providing healthy alternatives. Royne and Levy (2008) suggested that companies provide healthy products as an effective marketing strategy so that customers have positive reactions through socially responsible image.

Many organizations have taken CSR actions with the assumption that consumers will reward companies for their support of social programs. Even though positive relationships between CSR activities and customer attitudes or satisfaction have been found, the positive effects of CSR on financial success have been found not to be sustainable in the hospitality industry. Nicolau (2008) investigated whether social initiatives result in positive financial outcomes in tourism settings with a result that tourists tend to be involved in consumption. However, Kang, Lee, and Huh (2010) found mixed results among different hospitality industries. Especially for restaurants, they
showed that positive CSR activities have a positive impact on firm value, but no impact on profitability. Customer perceptions and behavioral intentions precede and eventually affect financial success. As a result, this current study pays attention to customer perceptions rather than financial results.

Several studies reported a positive relationship between a company’s CSR actions and consumers’ attitudes toward that company and its products with purchase intentions (Brown & Dacin, 1997; Scholder et al., 2000). Lee and Heo (2009) examined whether a restaurant's CSR activities influence customer satisfaction and consequently whether changed satisfaction level affects restaurant performance. Even though they did not find a mediating role for consumer satisfaction, the findings showed that positive CSR activities have a positive and significant impact on consumer satisfaction for restaurants.

Mohr and Webb (2005) suggested that American consumers value CSR and may use it as a purchasing criterion even when there is not a product parity situation. They created scenarios to manipulate corporate social responsibility with the sentence: “Company A was rated best (worst) in the industry on corporate giving.” They measured purchase intention by asking the respondents to rate how likely they would be to buy the product made by Company A. 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 a study (Jones et al., 2006) analyzing CSR in the form of healthy eating agendas among the UK’s top 10 food retailers, it was mentioned that consumers view companies with healthy eating agendas as supporting and promoting consumers’ healthy eating. Generally, CSR has been shown to have positive impacts on consumers’ perceptions of companies and their products.
**Hypothesis 4**: Provision of healthful children’s foods in addition to conventional foods will increase caregivers’ perceived corporate social responsibility.

**Hypothesis 5**: Provision of nutrition information on children’s foods will increase caregivers’ perceived corporate social responsibility.

**Hypothesis 6**: Increased caregivers’ perceived corporate social responsibility will positively influence caregivers’ willingness to visit the restaurants.

**Caregivers' concerns for children's eating**

Previous studies have shown that eating behaviors are affected by an individual’s socioeconomic, demographic and health related factors, which include health-consciousness, past healthy eating behavior, motivation, or nutrition knowledge (Bower et al., 2003; Deshmukh-Taskar, Nicklas, Yang, & Berenson, 2007; Drichoutis et al., 2008). From a review of studies that measured the association between socioeconomic status (SES) and diet/nutrition, it was found that people from low SES backgrounds were more likely to have inadequate consumption of fruits and vegetables and greater fat and sugar intake (Hanson & Chen, 2007). Deshmukh-Taskar et al. (2007) compared food group consumption based on socioeconomic (income and education) and demographic (age and sex) information of young adults aged 20 to 38 years. Their findings showed that people with higher income and longer years of education consume burgers/sandwiches less often and dairy products, fruits and vegetables more often. Females, older subjects, and individuals with high health concern and higher nutrition
knowledge had a higher intention to buy and pay more for foods with health benefits (Bower et al., 2003). Apparently, caregivers' dietary behaviors toward their children are also influenced by such factors. Honajee et al.’s (2012) study supported the suggested relationship through study results that parents with high income, and mothers who were more than 30 years old and working as professionals tended to provide more healthful foods to children.

In the context of caregiver behavior towards children, consideration of caregivers’ concerns for children’s eating would be the most appropriate variable that reflects all potential effects of the above socioeconomic, demographic and health related behavior factors. For example, caregivers who are female with more nutrition knowledge and health concerns will have higher concerns for children’s eating. Therefore, it is assumed that caregivers with higher concerns for children’s eating will react to the provision of healthful children’s foods and nutrition information more actively than caregivers with less concern for children’s eating. This study investigates the moderating role of caregivers’ concerns for children’s eating on the relationship between nutrition information and healthful children’s foods, and feelings of empowerment and perceived corporate social responsibility.

*Hypothesis 7*: The impact of nutrition information on consumer empowerment will be stronger for caregivers with high concerns for children's eating than for caregivers with low concerns for children’s eating.
Hypothesis 8: The impact of nutrition information on perceived CSR will be stronger for caregivers with high concerns for children's eating than for caregivers with low concerns for children’s eating.

Hypothesis 9: The impact of healthful children's foods on consumer empowerment will be stronger for caregivers with high concerns for children's eating than for caregivers with low concerns for children’s eating.

Hypothesis 10: The impact of healthful children's foods on perceived CSR will be stronger for caregivers with high concerns for children's eating than for caregivers with low concerns for children’s eating.

The conceptual model is presented in Figure 1. This figure illustrates relationships between two healthy eating initiatives for children at restaurants (provision of nutrition information and healthful children’s foods) and caregivers’ willingness to select such restaurants through two mediators (empowerment and perceived corporate social responsibility). In addition, caregivers’ concern for children’s eating is illustrated as a moderator between the healthy eating initiatives and mediators.
Figure 2. Conceptual model of healthy eating initiatives at restaurants on caregivers’ perceptions.
Chapter 3

Methodology

This chapter reports the methodology that was employed to test the hypotheses. This dissertation examined the effects of providing nutrition information and healthful children’s foods on caregivers’ perceptions of restaurants. The existence of nutrition information and healthful children’s foods was experimentally manipulated. Caregivers’ feelings of empowerment, perceived corporate social responsibility, and willingness to visit the restaurant were measured. In addition, this study measured caregivers’ concerns for children’s eating to examine a moderating effect of this variable on the effects of nutrition information and healthful children's foods in perceptions.

Survey instrument

Pilot tests

Two pilot studies (pilot study A and B) were conducted to develop conceptual backgrounds of the main study and to check measurement items for reliability. Also, one pilot test (pilot study C) was conducted to assess the efficacy of manipulations. Detailed information about measurement items adopted from the pilot study A and B, and experimental stimuli adopted from the pilot study C were described in experimental stimuli section and measurements of variables section separately.

The pilot study A investigated caregiver’s behaviors toward restaurants providing healthful children’s menus with nutrition information, has been published (Lee, Conklin,
& Bordi, 2012) and was attached in Appendix A. No published studies or magazine articles investigated how caregivers think of restaurants taking efforts on children's menus. This pilot study was conducted in order to have very basic research background whether caregivers have positive reactions to provision of healthful foods and nutrition information at restaurants, also to discover dining behaviors with children at restaurants. From the results of this pilot study, it was concluded that caregivers tended to be loyal to restaurants providing nutrition information on healthful children's foods. Caregivers wanted restaurants to serve more healthful items because current children's menus are typically high in calories and fat. Also, it was found that caregivers are most interested in fat, sugar, calories, and sodium amounts in children's menus. Based on the findings, experimental stimuli were developed.

The pilot study B (Lee, Conklin, Cranage, & Lee, 2013) is under review to be published in a hospitality journal. This pilot study was conducted with general customers in regular family restaurants setting to see whether the suggested conceptual model does make sense and to see whether each item measures corresponding constructs, which are either consumer empowerment, perceived CSR, or willingness to select the restaurants. This pilot study included attitude as an antecedent of willingness to select restaurants in the conceptual model. However, there was a discriminant validity issue between attitude and willingness to select restaurants because these two variables are highly correlated. Thus, the main study of this dissertation removed attitude from the model and contained only two mediators leading to willingness to select restaurants. All three constructs, consumer empowerment, perceived CSR, and willingness to select the restaurants, were measured separately. Each construct had Cronhach's alpha of above 0.7 (ranged from
0.77 to 0.92). Therefore, the main study adopted measurement items used in this pilot study.

The main study developed stimuli with children's menus. Before applying the developed experimental stimuli, which were four different versions of a menu, a pilot test C was conducted to check the efficacy of the manipulation of providing nutrition information and healthful children’s foods. This pilot test used four versions of a family restaurant kid’s menu explained below in the experimental stimuli section. This pilot test recruited participants from the listserv of a consumer panel of the Center for Food Innovation in a hospitality management program of a major northeastern university during February 2013. Participants were randomly assigned to one of the four stimuli through an online survey. They read a short introduction for the purpose of the survey and responded to questions whether they thought the restaurant in the scenario provides healthful children’s foods in addition to conventional foods, and if they thought the restaurant’s menu in the scenario provides nutrition information such as calories or total fat. The effectiveness of the manipulation of nutrition information and healthful children’s foods was measured on a 7-point scale (1=strongly disagree to 7=strongly agree).

A total of 111 participants completed the survey (response rate = 13%). Independent t-test results showed that manipulation of both healthful children’s foods and nutrition information worked successfully. Participants (M= 5.3) who were assigned to menus containing healthful children’s foods were more likely to perceive the restaurants to provide healthful foods than participants (M= 2.22) who were assigned to menus containing only conventional children’s foods (t (95) = 12.92, p< 0.001). Participants
(M = 6.04) who received menus with nutrition information perceived significantly more that the restaurant provides nutrition information than participants (M = 2.79) who did not see nutrition information on menus (t (77) = 11.00, p < 0.001). Therefore, the same stimuli of four menu types were used in the main study.

**Experimental stimuli**

The study employed a 2 x 2 between-subjects experimental design, manipulating the existence of nutrition information (provision versus no provision) and healthful children’s foods (provision versus no provision) on children’s menus. The experimental stimuli first introduced a restaurant that serves children’s foods and asked participants to imagine that they decide on eating out with their child for lunch or dinner without any involved special events (e.g., birthday party or pay day). This study used four versions of real children's menu with a fixed price ($6 for a set of meal and additional $1 for a side item, if available), which were developed and confirmed in the pilot study C. Two versions of menus contained four healthful items and three conventional items. Four healthful items included Grilled Chicken with Steamed Broccoli and Fish Tacos, Salsa, Baked Tortilla Chips, which were obtained from the websites of Kids Live Well program and Healthy Dining Finder collaborating with Kids Live Well. This study added one seafood menu as one of the healthful items due to caregivers’ and children’s increasing preference on seafood items (Glazer, 2010). Most menus in the websites are composed of a main dish, a side item, and a beverage. A main researcher calculated nutrient amounts of a main dish and a side item by subtracting the one of a beverage from the total
amounts presented in the website. The menu with nutrition information provided calories, total fat, calories from fat, and sodium per each menu item. The experimental stimuli are shown in Appendix B.

**Measurements of variables**

Items are adopted from pilot studies (Lee, Conklin, & Bordi, 2012; Lee, Conklin, Cranage & Lee, 2013). The only change from previous items was adding a concept of children's menus and childhood obesity in each question. For example, one question on CSR inserted children rather than customer in the sentence, "I believe that this restaurant is considering children's health."

**Empowerment: mediator**

There was no extant scale for empowerment. Scales used in Lee et al.'s (2013) study were used to measure caregivers’ feelings of empowerment. Three items for empowerment were measured: “I have control over selecting menu items for my child at this restaurant.” “I feel empowered to select suitable menu items for my child in this restaurant,” “I feel empowered to select a restaurant to eat out with my child.” All measurement items were on a 7-point Likert-type scale, asking participants to indicate the degree to which they agreed with each statement (1=strongly disagree to 7=strongly agree).

**Perceived corporate social responsibility: mediator**

Lee et al. (2013) measured perceived CSR using four items adapted from Brown and Dacin (2005). This study used four items with slight wording changes from those in
the pilot study with consideration on children: “I believe that this restaurant is considering children’s health,” “I believe that this restaurant acts responsibly against childhood obesity issues,” “I believe that this restaurant has a sense of responsibility to children’s health,” “I believe that this restaurant is socially responsible.” Participants rated on a 7-point Likert-type scale (1=strongly disagree to 7=strongly agree).

Willingness to visit the restaurant: a dependent variable

As proven to be effective in Lee et al.’s (2013) study, four questions regarding willingness to visit the restaurant were used to assess the extent to which caregivers want to visit the restaurant to eat out with their child. The four items were “I would prefer eating at this restaurant with my child than at other restaurants,” “I would eat at this restaurant with my child,” “I would select this restaurant to have a meal with my child,” “This restaurant would be my first choice for eating out with my child.” Participants rated on a 7-point Likert-type scale (1=strongly disagree to 7=strongly agree).

Caregivers’ concerns for children’s eating

There is no extant scale for caregivers’ concerns for children’s eating. Lee et al. (2012) borrowed nine items from a child feeding questionnaire (Birch et al., 2001) to measure caregivers’ overall concerns about the quality of children’s meals. This study used these nine items to measure caregivers’ concerns for children’s eating consisting of three categories; caregivers’ perceived responsibility for food consumed by their child, caregivers’ concern about child’s weight, and caregivers’ restriction on food selection.

Three items for caregivers’ perceived responsibility were measured with a 5-point Likert-type scale (1=never to 5=always): “When your child is at home, how often do you feel responsible for arranging meals for her/him?” “How often do you feel responsible for
deciding how much she/he eats?” “How often do you feel responsible for deciding if your child has eaten the right kind of foods?” To measure caregivers’ concern about their child’s weight, three items were used with a 5-point Likert-type scale (1=unconcerned to 5=very concerned): “How concerned are you about your child eating too much when you are not around her/him?” “How concerned are you about your child having to diet to maintain a desirable weight?” “How concerned are you about your child becoming overweight?” Caregivers’ restriction on food selection was measured by using three items with a 5-point Likert-type scale (1=disagree to 5=agree): “I have to be sure that my child does not eat too many sweets (candy, ice cream, cake or pastries).” “I have to be sure that my child does not eat too many high-fat foods.” “If I did not guide my child's eating, she/he would eat too much of her/his favorite foods.”

**Meal selection for children**

This study asked caregivers to select and list one food item, one beverage, and one side item, if available, for their child. If they don't find any items for their child to eat, they wrote down Not Available. The major purpose of this question was to make participants read the provided menu thoroughly with substantial attention, consequently making manipulations successful. A sample questionnaire is presented in Appendix C.

**Demographic information**

Caregivers provided information about age and gender of the child and themselves. They also were asked questions about their education level, marital status, occupational status and family role.
Data collection

Participants

This study recruited participants from two sources: the alumni listserv in a hospitality management program of a major northeastern university and caregivers of middle school students in a suburban school district in the northeast. The survey instrument and data collection procedures were approved by the Institutional Review Board of a major northeastern university (Appendix C).

Participants were required to meet the following two criteria in order to participate in the survey; (a) they had to be caregivers or caregivers living with children who were between 2 and 15 years old; and (b) they had to dine with children in restaurants (other than fast food) for lunch or dinner at least once a month. Even though the age limit for children was necessary to focus on the use of children’s menus, this study had a wide range of children’s ages. No standard age limit for use of children's menus is regulated. Some restaurants have an age limit of 12 years old to access children's menus. However, others don't have this same age limit. Additionally, no previous studies had determined an age when children are the primary customer, not getting a caregiver's help in food selection at restaurants. As a result, this study decided to have a wide age limit and asked caregivers "At what child's age would you allow your child to make a decision what to eat at restaurants?"
Procedures

The overview of a research and questionnaire were sent to the College Alumni Association in order to use alumni list and to the principal of the middle school in order to use parents’ list. The overview of a research addressed research purpose, reasons why alumni and parents list are desired for this study, survey method etc. Superintendent of school district approved release of parents’ list, the College Alumni Association did so. Email with embedded survey links was sent out to potential participants. The alumni received an online survey link first in Feb and a reminder in March, a month later from the first request. Caregivers of middle school students received the first request with online survey link at the end of April and a reminder two weeks later from the first request.

The questionnaire asked participants to answer screening questions to exclude people who do not meet the criteria mentioned above. Only participants who satisfied the criteria moved on to the next steps. Also, participants were asked to select only one child if they had more than one and provide information about age and gender of the child selected.

Participants were randomly assigned to one of the four versions of scenarios. They were asked to read a short scenario describing a situation when they consider eating out with their child for lunch or dinner on a usual day and to see a picture of a kid’s menu. The scenario and the menus were developed in the pilot tests. The participants were asked to respond to a series of questions assessing caregivers’ feelings of
empowerment, perceived corporate social responsibility, willingness to visit the restaurant, and caregivers’ concerns for children’s eating.

Statistical analysis

An independent $t$-test was conducted to confirm the manipulation check between participants with and without nutrition information, and participants with and without healthful children’s foods. As mentioned, this study adopted items and changed few terms from previously used items (Lee et al., 2012, 2013). Thus, reliability coefficients for newly developed items were checked. In order to test the reliability of measurement scales, Cronbach's alpha and the mean inter-item correlation were used.

This study conducted two major analyses; (1) Multiple regression analysis, (2) Two-way ANOVA. First, regression analysis was used to examine the mediating roles of consumer empowerment and perceived CSR between healthful children’s foods, nutrition information and willingness to select restaurants. Summated values were used for the three measured constructs. The mediation tests followed the approach of Baron and Kenny (1986). They argued three conditions that should be satisfied to be a mediator: (a) significant relationship from an independent variable to a mediator, (b) significant relationship from a mediator to a dependent variable, and (c) less or no significant relationship between an independent variable and a dependent variable, which is previously significant, when the two relationships (a and b) are controlled. Thus, mediation analyses using regression analysis were conducted four times for the four suggested relationships: healthful children’s foods $\rightarrow$ consumer empowerment $\rightarrow$
willingness to select restaurants, healthful children’s foods → perceived CSR → willingness to select restaurants, nutrition information → consumer empowerment → willingness to select restaurants, and nutrition information → perceived CSR → willingness to select restaurants.

Second, this study investigated the moderating role of caregivers’ concerns for children’s eating by using ANOVA. This study assumes that caregivers’ concerns for children’s eating significantly affect the relationships between two independent variables (nutrition information and healthful children’s foods) and two mediators (empowerment and perceived CSR). Hence, moderation analyses using two-way ANOVA were performed four times for the four suggested relationships.

Third, based on previous studies (Howlett, Burton, Bates, & Huggins, 2009; Kozup et al., 2003) showing customers’ favorable purchase intentions of healthful items with nutrition information, this study investigated potential interaction effects between two independent variables on the dependent variable (willingness to select the restaurant), by using two-way ANOVA. From this analysis, this study verified that the suggested conceptual model without a consideration of interaction effect between provision of healthful children’s foods and nutrition information does make sense.

Additionally, this study conducted a series of descriptive analyses to examine caregiver's dining behavior and used Chi-square, Independent t-test, and ANOVA to compare dining behavior according to experimental designs or caregiver's and children's demographic factors. Caregiver's dining behaviors are not parts of the hypotheses. However, an investigation of caregiver's dining behavior gave researchers sources to support or discuss obtained results. Caregiver's dining behaviors include frequency of
eating out with children, their influence on food selection for children, perceived children's age at which they lose control over food selection for children. Also, calories of selected food items by caregivers for their child were calculated. When they said that couldn't find available items, calories of food selections were removed from the analysis.
Chapter 4

Results

This chapter reports the results of statistical analyses in the following order. Preliminary analyses of descriptive statistics about socioeconomic and demographic information, manipulation check, and internal consistency of items were first described. Then, results of hypotheses testing are reported. This part includes the results of regression analyses conducted to examine the mediating role of consumer empowerment and perceived CSR, and results of ANOVA used to investigate the moderating role of caregiver’s concerns for children’s eating. After that, the results of additional analyses are reported to examine caregiver's concerns for children's eating as a proxy variable of socioeconomic and demographic information, a potential interaction effect between serving healthful children’s menus and presenting nutrition information on willingness to select restaurants and caregiver's dining behavior.

Return rate and demographic information about caregivers and children

A total of 120 individuals from the alumni listserve completed the online survey, yielding a response rate of 5%. Surveys from two respondents were deleted because they did not satisfy the criteria to participate. They had no child or had a child aged less than two years old. Thus, 118 responses from the alumni listserve were used for analyses. Thirty-seven middle school parents completed the online survey. The response rate from this source was 14%. All participants from this source satisfied the criteria.
Before combining data from two sources, quality was checked for the two data sets separately using descriptive and comparison analyses. It was argued that several issues prohibited the use of data from caregivers of middle school students. One issue was a time gap of two months between alumni and school data collections. The time gap left the possibility of confounding factors such as a mass media effect related to children’s menus. Another issue was related to children’s average age. The average ages of children in the alumni listserv and schools data are 7 (± 3.2) and 12 (± 2.8) years old, respectively, which is a significant difference. Also, it was found that caregivers of middle school students tended to have different reactions and perceptions for two independent variables (provision of healthful children's foods and nutrition information) when compared with the alumni caregivers. As a result, it was decided not to use data completed by the parents of middle school students.

Data from the last pilot study were considered to have enough sample size (n=111) and various demographic information. This pilot test C was conducted with consumer panels of the Center for Food Innovation in a hospitality management program of a major northeastern university during February 2013. In terms of no time gap, these data were more appropriate than data from parents of middle school. The sample size of only alumni data (n= 118) satisfied the minimum cases required to conduct multiple regression analysis for a mediation check because these models include only two independent variables. The ratio of observations to independent variables should be 50:1 (Hair, Black, Babin, & Anderson, 2009). However, this sample size is not enough if there is a case to use two independent variables together with one mediator when investigating potential interaction effects. Also, the major reason to collect data from two different
sources was to have participants with various demographic backgrounds. Thus, it was decided to incorporate the data from the most recent pilot test to check if the developed stimuli with children’s menus worked successfully. The main study used exactly the same questionnaires without any change of manipulations because the originally developed manipulations worked well.

Before combining the pilot data, it was confirmed that children’s average age of pilot data ($M = 8$ years old, $SD = 4.0$) was not different with those of alumni data ($M = 7$ years old, $SD = 3.2$). Also, ANOVA analyses were conducted to check whether two different data sources have different outcomes for the suggested relationships, the starting point being healthful children’s foods and nutrition information onto willingness to select restaurants. First, the ANOVA model included healthful children’s foods and time variables (time1: pilot vs. time 2: alumni) as independent variables, and willingness to select restaurants as a dependent variable. The result showed no interaction effect between the two independent variables ($F < 0.000, p = 0.983$). The second ANOVA model included nutrition information and time as independent variables, and willingness to select restaurants as a dependent variable. This model also did not show an interaction effect between nutrition information and time variables ($F = 0.235, p = 0.628$). The results indicated that two different sources have similar patterns for the suggested relationships. Therefore, the pilot data were combined with the alumni data and accumulated data were used for statistical analyses.

Eight out of 111 respondents in the pilot test did not satisfy the criteria, for example, zero time to eat out at restaurants a month or no responses on child's age. Thus, responses of 103 caregivers were merged with the data of alumni. Total sample size was
reached at 221. Comparison analyses show significant differences of socioeconomic and demographic information, except for marital status, between caregivers from the two different recruitment sources (Table 1). Caregivers from the pilot data were more likely to be female, older and be caregivers other than parent (e.g., grandparent), and have lower education level and full time jobs than caregivers in alumni data.

Table 4. Comparison of socioeconomic and demographic information between two different data sources.

<table>
<thead>
<tr>
<th>Demographic information</th>
<th>Chi-square value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>3.470</td>
<td>0.063</td>
</tr>
<tr>
<td>Age</td>
<td>23.421</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Education</td>
<td>50.995</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.437</td>
<td>0.932</td>
</tr>
<tr>
<td>Occupational status</td>
<td>10.597</td>
<td>0.005</td>
</tr>
<tr>
<td>Family role</td>
<td>14.549</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Table 2 shows the number of caregivers per each cell for the four experimental stimuli, which were four different children's menus. Of the 221 caregivers, 24.4% perceived that their menu contained both healthful children's foods and nutrition information, 22.6% considered their menu to contain only healthful children's foods without nutrition information, 19% considered menu to contain only nutrition information without healthful children's foods, and 33.9% perceived that their menu did not contain any healthful children's foods and nutrition information.
Table 4. Number of caregivers per each experimental condition.

<table>
<thead>
<tr>
<th>Healthful children's menu items</th>
<th>Nutrition information</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>54 (24.4%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>50 (22.6%)</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>42 (19.0%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>75 (33.9%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>221 (100.0%)</td>
</tr>
</tbody>
</table>

Table 3 describes the demographic characteristics of caregivers and children. Almost two-thirds of caregivers were female, maybe mothers because 90% indicated they were a parent as a family role. The rest, 10% of respondents, were grandparents or other. Approximately half of respondents were aged 35 to 44 years old and had a baccalaureate degree. Around one-fourth of caregivers were aged between 25 and 34 years or between 45 and 54 years, respectively. The majority of respondents was married and had full time jobs. On average, each respondent had one or two children, with a range from one to four children. Caregivers were asked to choose a child to answer questions if they have more than one. Half of the children who were selected for the survey were boys and half were girls. The average age of selected children was 7 years.

In order to investigate the moderating role of caregiver's concerns for children’s eating, this study divided caregivers into either a low or high concern group using a median split method. Caregiver's concerns for children’s eating averaged 3.34 (± 0.05) with a median of 3.33. After the division, 106 caregivers (48%) were grouped in a low
concern group and 115 (52%) in a high concern group. Concerns of low and high concern groups averaged 2.74 (± 0.04), 3.90 (± 0.04) with a median of 2.78, 3.89, respectively.

Table 3. Socioeconomic and demographic information of caregivers and children.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caregivers</strong></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>65 (29.4)</td>
</tr>
<tr>
<td>Female</td>
<td>156 (70.6)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>1 (0.5)</td>
</tr>
<tr>
<td>25-34</td>
<td>48 (21.7)</td>
</tr>
<tr>
<td>35-44</td>
<td>119 (53.8)</td>
</tr>
<tr>
<td>45-54</td>
<td>42 (19.0)</td>
</tr>
<tr>
<td>55-64</td>
<td>11 (5.0)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>High school</td>
<td>19 (8.6)</td>
</tr>
<tr>
<td>Associate degree</td>
<td>30 (13.6)</td>
</tr>
<tr>
<td>Baccalaureate degree</td>
<td>121 (54.8)</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>51 (23.1)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>13 (5.9)</td>
</tr>
<tr>
<td>Married</td>
<td>186 (84.2)</td>
</tr>
<tr>
<td>Divorced</td>
<td>20 (9.0)</td>
</tr>
<tr>
<td>Widowed</td>
<td>2 (0.9)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
</tbody>
</table>

(continued)
Table 3 (Continued). Socioeconomic and demographic information of caregivers and children.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caregivers</strong></td>
<td></td>
</tr>
<tr>
<td>Occupational status</td>
<td></td>
</tr>
<tr>
<td>Employed full time</td>
<td>182 (82.4)</td>
</tr>
<tr>
<td>Employed part time</td>
<td>20 (9.0)</td>
</tr>
<tr>
<td>Not currently employed</td>
<td>19 (8.6)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
<tr>
<td>Family role</td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>200 (90.5)</td>
</tr>
<tr>
<td>Grandparent</td>
<td>16 (7.2)</td>
</tr>
<tr>
<td>Caregiver</td>
<td>1 (0.5)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (1.8)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
<tr>
<td><strong>Number of children</strong></td>
<td></td>
</tr>
<tr>
<td>aged 2-15 years</td>
<td></td>
</tr>
<tr>
<td>$M \pm SD$</td>
<td></td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>111 (50.2)</td>
</tr>
<tr>
<td>Girl</td>
<td>109 (49.3)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (0.5)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100.0)</td>
</tr>
<tr>
<td>Age $M \pm SD$</td>
<td>7.33 ± 3.67</td>
</tr>
</tbody>
</table>
Manipulation checks

An independent t-test was performed twice to check whether manipulations of nutrition information and healthful children's foods work successfully (Table 4). The results showed that both manipulations had efficacy. Caregivers who perceived children's menus to contain healthful children's foods averaged a significantly higher score for the item, "Restaurant A provides healthful children's foods in addition to conventional foods" than those who received menus without healthful children's foods (M_{healthful items} = 5.83, SD = 0.81 vs. M_{no healthful items} = 2.33, SD = 1.23; t (201.89) = -25.21, p < 0.001). In a similar way, caregivers who were presented with nutrition information averaged a significantly higher score for the item, "Restaurant A provides nutrition information such as Calories or Total fat on children's menus" than those who were not presented with nutrition information (M_{nutrition information} = 6.59, SD = 0.49 vs. M_{no nutrition information} = 2.74, SD = 1.58; t (154.39) = -25.76, p < 0.001). Therefore, the manipulation of both healthful children's foods and nutrition information was successful.

Table 4. Manipulation checks using independent t-test.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Yes</th>
<th>No</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>The presence of healthful children's foods¹</td>
<td>5.83 0.81</td>
<td>2.33 1.23</td>
<td>-25.21</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>The presence of nutrition information¹</td>
<td>6.59 0.49</td>
<td>2.74 1.58</td>
<td>-25.76</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

¹Response scale from 1: Strongly disagree to 7: Strongly agree
Reliability of measurement scales

The internal consistency of each construct score was examined by using Cronbach's alpha values (Table 5). The reliability tests were conducted for constructs that were measured by several items; Consumer empowerment, perceived CSR, willingness to visit restaurants, and caregiver's concerns for children’s eating. The alpha coefficients ranged from 0.575 to 0.950, indicating that all constructs, except for consumer empowerment, were measured by corresponding items exhibiting internal consistency. In the pilot study B, all constructs including consumer empowerment were measured with high internal consistency (ranged from 0.77 to 0.92). Different items in the main study as contrasted with the pilot study, were modified with slight wording changes according to the situation of eating out with children and different subjects, caregivers in the main study and general people in the pilot study. Clark& Watson (1995) suggested using an estimate of the mean inter-item correlation in addition to Cronbach’s alpha because Cronbach’s alpha estimation of reliability is dependent on the number of measurement items. They recommended that the average inter-item correlation fall in the range of 0.15-0.50. The mean inter-item correlation of consumer empowerment is 0.31, which is in the recommended range. Thus, it was concluded that the measurement items are highly reliable for the measurement of perceived corporate social responsibility, willingness to select restaurants, and caregiver’s concerns for children eating and that consumer empowerment was measured with an acceptable internal consistency.
Table 5. Reliability test of measurement items.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Number of measurement items</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer empowerment</td>
<td>3</td>
<td>0.575¹</td>
</tr>
<tr>
<td>Perceived corporate social responsibility</td>
<td>4</td>
<td>0.932</td>
</tr>
<tr>
<td>Willingness to select restaurants</td>
<td>4</td>
<td>0.950</td>
</tr>
<tr>
<td>Caregiver's concerns for children eating</td>
<td>9</td>
<td>0.793</td>
</tr>
</tbody>
</table>

¹Consumer empowerment has a mean inter-item correlation of 0.31, which falls in the recommended range by Clark & Watson (1995).

Testing of hypotheses

Mediating roles of consumer empowerment and perceived CSR

A series of regression analyses were conducted to estimate the mediating roles of consumer empowerment and perceived CSR between healthful children’s foods, nutrition information and willingness to select restaurants. The first two conditions of the Baron and Kenny (1986) approach includes one equation in which a dependent variable is regressed on a mediator and another equation in which a mediator is regressed on an independent variable. The final condition is an equation in which the dependent variable is regressed on both an independent variable and a mediator. The first two conditions were all satisfied for the four suggested mediation relationships. The results of the final condition analyzed by a series of regression analyses are described in Tables 6 and 7.
Before conducting regression analyses, normality checks for the dependent variable and two mediators were performed by examining information for skewness, kurtosis, and boxplots. All values of skewness and kurtosis of willingness to select restaurants, consumer empowerment, and perceived CSR were within the recommended range between -1.0 and +1.0 for skewness (Huck, 2008) and between -4.0 and +4.0 for kurtosis (Kline, 1998). Boxplots did not show significant/major outliers. Thus, the researcher judged the data were fairly normal and multiple regression could be used. Detailed information about these measures, boxplots, and normal probability plots are shown in Appendix D.

Table 6 shows the mediating roles of consumer empowerment and perceived CSR between healthful children’s foods and willingness to select restaurants. Hypotheses 1 and 4 suggested that provision of healthful children’s foods in addition to conventional foods would increase caregivers’ feelings of empowerment and perceived corporate social responsibility, respectively. Hypotheses 3 and 6 suggested the positive impacts of feelings of empowerment and perceptions of corporate social responsibility on caregivers’ willingness to visit restaurants. In the final model with healthful children's foods and consumer empowerment, each VIF value of two indicators was 1.054, which is less than 10 (Hair et al., 2009). Thus, multicollinearity was not an issue. The significance of healthful children’s foods in the joint equation with consumer empowerment was the same as the one in the equation without consumer empowerment. However, the standardized coefficients for healthful children’s foods decreased from 0.7 to 0.66. This means that consumer empowerment acts as a mediator (partial mediation model) between healthful children’s foods and willingness to select restaurants, even in a slight degree. In
the final model with healthful children's foods and perceived CSR, each VIF value of two indicators was 2.133, indicating no multicollinearity issue. The significance of healthful children’s foods was smaller in the joint equation with perceived CSR acting as a mediator, but, still significant at $p$-value of 0.01. The standardized coefficients for healthful children’s foods decreased from 0.7 to 0.12, indicating that perceived CSR partially mediates healthful children’s foods. Both consumer empowerment and perceived corporate social responsibility appears to partially mediate healthful children’s foods to willingness to select restaurants. As a result, it was concluded that caregivers tend to have a high willingness to select restaurants with healthful children’s foods not only because the restaurants serve healthful children’s foods, but also because caregivers feel empowered and perceive the restaurants to be socially responsible.
Table 6. Mediating role of consumer empowerment and perceived corporate social responsibility for healthful children’s foods.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Standardized Beta</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable: Willingness to select restaurants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent variable only</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthful children’s foods</td>
<td>0.70</td>
<td>14.48</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>F-value: 209.54, p&lt; 0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: 0.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent variable with consumer empowerment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthful children’s foods</td>
<td>0.66</td>
<td>13.66</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Consumer empowerment</td>
<td>0.17</td>
<td>3.61</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>F-value: 117.04, p&lt; 0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: 0.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent variable with perceived corporate social responsibility</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthful children’s foods</td>
<td>0.12</td>
<td>2.67</td>
<td>0.008</td>
</tr>
<tr>
<td>Perceived corporate social responsibility</td>
<td>0.79</td>
<td>17.09</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>F-value: 390.16, p&lt; 0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: 0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results about the mediating role of consumer empowerment and perceived CSR between nutrition information and willingness to select restaurants are presented in Table 7. Hypotheses 2 and 5 suggested that provision of nutrition information on children’s foods would increase caregivers’ feelings of empowerment and perceived corporate social responsibility, respectively. Hypotheses 3 and 6 about the positive impacts of feelings of empowerment and perception of corporate social responsibility on caregivers’ willingness to visit restaurants were already mentioned as being supported in Table 6. In the final model with nutrition information and consumer empowerment, each VIF value of two indicators was 1.015, indicating no multicollinearity. The significance of nutrition information in the joint equation with consumer empowerment decreased from the one in the equation without consumer empowerment. Also, nutrition information was not significant any more at $p$-value of 0.01. The standardized coefficients for nutrition information decreased from 0.19 to 0.15. This means that consumer empowerment acted as a mediator between nutrition information and willingness to select restaurants. In the final model with nutrition information and perceived CSR, each VIF value of two indicators was 1.073, meaning no multicollinearity issue. The significance of nutrition information is smaller in the joint equation with perceived CSR acting as a mediator. In the joint equation, nutrition information does not affect caregiver’s willingness to select restaurants. The standardized coefficients for nutrition information decreased from 0.19 to -0.05, indicating that perceived CSR completely mediates nutrition information. In sum, both consumer empowerment and perceived CSR appears to completely mediate nutrition information to willingness to select restaurants. As a result, it was concluded that caregivers tend to have high willingness to select restaurants with nutrition
information. It’s because caregivers feel empowered and perceive the restaurants to be socially responsible when restaurants provide nutrition information, not simply because the restaurants provide nutrition information. Therefore, the proposed relationships of hypotheses 1 through 6 are all supported.

Table 7. Mediating role of consumer empowerment and perceived corporate social responsibility for nutrition information.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Standardized Beta</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable: Willingness to select restaurants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Independent variable only</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition information</td>
<td>0.19</td>
<td>2.80</td>
<td>0.006</td>
</tr>
<tr>
<td><em>F</em>-value: 7.84, <em>p</em> = 0.006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: 0.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Independent variable with consumer empowerment</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition information</td>
<td>0.15</td>
<td>2.33</td>
<td>0.021</td>
</tr>
<tr>
<td>Consumer empowerment</td>
<td>0.31</td>
<td>4.80</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><em>F</em>-value: 15.82, <em>p</em> &lt; 0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: 0.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Independent variable with perceived corporate social responsibility</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition information</td>
<td>-0.05</td>
<td>-1.42</td>
<td>0.156</td>
</tr>
<tr>
<td>Perceived corporate social responsibility</td>
<td>0.89</td>
<td>26.91</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><em>F</em>-value: 378.82, <em>p</em> &lt; 0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$: 0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Moderating role of caregiver’s concerns for children’s eating

Hypotheses 7-10 suggested that the positive impacts of nutrition information and healthful children’s foods on consumer empowerment and perceived CSR would be stronger for caregivers with high concerns for children’s eating than caregivers with low concerns. A series of ANOVA models were performed to investigate the moderating role of caregiver's concerns for children's eating. For all ANOVA models, Levene's test of equality of error variances was conducted to assess the homogeneity assumption.

Hypothesis 7 proposed that caregivers with high concerns for children's eating will be more likely to feel empowered when seeing nutrition information on a menu than will caregivers with low concerns. For this hypothesis, an ANOVA model included nutrition information and caregiver’s concerns for children’s eating as independent variables, an interaction term of these two independent variables, and consumer empowerment as a dependent variable. Hypothesis 8 proposed that caregivers with high concerns for children's eating will be more likely to perceive restaurants to be socially responsible when seeing nutrition information on a menu than will caregivers with low concerns. The ANOVA model for hypothesis 8 included nutrition information and caregiver’s concerns for children’s eating as independent variables, an interaction term of these two independent variables, and perceived CSR as a dependent variable. Levene's test of equality of error variances indicated that the homogeneity assumption associated with the ANOVA test had been satisfied for the two ANOVA models (Model with consumer empowerment: $F(3, 217) = 2.69, p = 0.047$, Model with perceived CSR: $F(3, 217) = 0.96, p = 0.414$).
Tables 8 and 9 information indicate that both ANOVA models do not have significant interaction terms between nutrition information and caregiver’s concerns for children’s eating on consumer empowerment, either on perceived CSR. Thus, caregiver's concerns for children's eating did not affect the extent to which caregivers react to nutrition information, thus alternative hypotheses 7 and 8 developed by the researcher were not supported.

Table 8. Moderation role of caregiver’s concerns for children's eating between nutrition information and consumer empowerment.

<table>
<thead>
<tr>
<th>Source</th>
<th>$F$-value</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition information</td>
<td>3.73</td>
<td>0.028</td>
</tr>
<tr>
<td>Caregiver’s concerns for children's eating</td>
<td>1.22</td>
<td>0.135</td>
</tr>
<tr>
<td>Nutrition information * Caregiver’s concerns for children's eating</td>
<td>0.01</td>
<td>0.468</td>
</tr>
</tbody>
</table>

$R^2 = 0.021$ (Adjusted $R^2 = 0.007$)

Table 9. Moderation role of caregiver’s concerns for children's eating between nutrition information and perceived corporate social responsibility.

<table>
<thead>
<tr>
<th>Source</th>
<th>$F$-value</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition information</td>
<td>16.61</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Caregiver’s concerns for children's eating</td>
<td>1.14</td>
<td>0.143</td>
</tr>
<tr>
<td>Nutrition information * Caregiver’s concerns for children's eating</td>
<td>0.35</td>
<td>0.279</td>
</tr>
</tbody>
</table>

$R^2 = 0.074$ (Adjusted $R^2 = 0.061$)
Hypothesis 9 proposed that the positive impact of healthful children's foods on consumer empowerment would be stronger for caregivers with high concerns for children's eating than for caregivers with low concerns for children’s eating. The ANOVA model included healthful children’s foods and caregiver’s concerns for children’s eating as independent variables, an interaction term of these two independent variables, and consumer empowerment as a dependent variable. The ANOVA model also satisfied the homogeneous error variances assumption with Levene's test of equality of error variances being insignificant ($F (3, 217) = 2.13, p = 0.098$). Table 10 shows a significant disordinal interaction effect between healthful children's foods and caregiver's concerns for children's eating on consumer empowerment, with a covariate of influence on food selection for children at restaurants. Even though caregiver's concerns for children's eating do not have a main effect on consumer empowerment, it changed the level of consumer empowerment when caregivers were provided with healthful children's foods even in a slight degree. Table 11 reports the mean of consumer empowerment by experimental condition of healthful children's foods and the level of caregiver's concerns. As the significance of interaction term is weak, the differences of mean values are not huge. The interesting point in this analysis is the role of influence on food selection as a covariate. It’s interpreted in this way. Even though caregivers have high concerns on children’s eating, if they do not have enough influence on food selection due to any reasons, they would not feel empowered.
Table 10. Moderating role of caregiver’s concerns for children’s eating for consumer empowerment.

<table>
<thead>
<tr>
<th>Source</th>
<th>F-value</th>
<th>p-value (One-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthful children’s foods</td>
<td>15.09</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Caregiver’s concerns for children eating</td>
<td>0.46</td>
<td>0.250</td>
</tr>
<tr>
<td>Influence on food selection¹</td>
<td>33.37</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Healthful children’s foods *</td>
<td>3.10</td>
<td>0.040</td>
</tr>
<tr>
<td>Caregiver’s concerns for children eating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R² = 0.185 (Adjusted R² = 0.170)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Influence on food selection indicates how much caregivers have influence on food selection for children at restaurants.

Table 11. Description of consumer empowerment by healthful children's foods and caregiver's concerns for children's eating.

<table>
<thead>
<tr>
<th>Healthful children's menu items</th>
<th>Caregiver's concerns</th>
<th>M ± SD¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Low</td>
<td>4.80 ± 0.99</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>5.10 ± 1.18</td>
</tr>
<tr>
<td>No</td>
<td>Low</td>
<td>4.45 ± 1.06</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>4.42 ± 1.27</td>
</tr>
</tbody>
</table>

¹Response scale from 1: *Strongly disagree* to 7: *Strongly agree*
As Figure 2 illustrates, when healthful children's foods are provided, caregivers with high concern reacted more strongly than caregivers with low concern. The difference of consumer empowerment between high and low concern groups when there is no healthful children's foods is relatively smaller than the one when caregivers have healthful children's foods. Thus, caregiver's concerns for children's eating appear to moderate the relationship between healthful children's foods and consumer empowerment, supporting hypothesis 9.

Figure 2. Interaction effect of caregiver’s concerns for children’s eating on consumer empowerment.
Hypothesis 10 proposed that the positive impact of healthful children's foods on perceived CSR would be stronger for caregivers with high concerns for children's eating than for caregivers with low concerns for children’s eating. The ANOVA model included healthful children’s foods and caregiver’s concerns for children’s eating as independent variables, interaction term of these two independent variables, and perceived CSR as a dependent variable. Table 12 shows a significant interaction effect between healthful children's foods and caregiver's concerns for children's eating. The ANOVA model satisfied the homogeneity assumption, as Levene's test of equality of error variances was not rejected ($F (3, 217) = 2.48, p = 0.062$). As well as the previous ANOVA model, caregiver's concerns for children's eating do not have a main effect on perceived CSR. However, the level of caregiver's concerns influences how much they perceive restaurants serving healthful children's foods to be socially responsible. Table 13 reports the mean of perceived CSR by experimental condition of healthful children's foods and the level of caregiver's concerns. Regardless of the level of caregiver's concerns, they tend to perceive that restaurants are acting socially responsibly when they provide healthful children's foods. The difference of the perception change of high concern group is bigger than those of low concern group.
Table 12. Moderation role of caregiver’s concern’s for children eating for perceived corporate social responsibility.

<table>
<thead>
<tr>
<th>Source</th>
<th>$F$-value</th>
<th>$p$-value (One-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthful children’s foods</td>
<td>246.04</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Caregiver’s concerns for children eating</td>
<td>0.14</td>
<td>0.357</td>
</tr>
<tr>
<td>Healthful children’s foods *</td>
<td>3.39</td>
<td>0.034</td>
</tr>
<tr>
<td>Caregiver’s concerns for children eating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R$^2 = 0.538$ (Adjusted R$^2 = 0.532$)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13. Description of perceived CSR by healthful children's foods and caregiver's concerns for children's eating.

<table>
<thead>
<tr>
<th>Healthful children's menu items</th>
<th>Caregiver's concerns</th>
<th>$M \pm SD^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Low</td>
<td>4.89 ± 0.98</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>5.22 ± 1.02</td>
</tr>
<tr>
<td>No</td>
<td>Low</td>
<td>2.80 ± 1.25</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>2.58 ± 1.17</td>
</tr>
</tbody>
</table>

$^1$Response scale from 1: *Strongly disagree* to 7: *Strongly agree*
As Figure 3 illustrates, when healthful children's foods are provided, caregivers with high concern reacted more strongly than caregivers with low concern. The difference of perceived CSR between high and low concern groups when there is no healthful children's foods is relatively smaller than the one when caregivers have healthful children's foods. Thus, caregiver's concerns for children's eating appear to moderate the relationship between healthful children's foods and perceived CSR, supporting hypothesis 10.

Figure 3. Interaction effect of caregiver’s concerns for children’s eating on perceived corporate social responsibility.
Ancillary analyses

Caregiver's concerns for children's eating

In general, caregivers were moderately concerned about children's eating ($M \pm SD = 3.34 \pm 0.05$, on a 5-point scale). Specifically, for the three subcategories of concerns, caregivers tended to indicate a high responsibility for children’s meal consumption ($M \pm SD = 4.17 \pm 0.66$), not to be concerned about the child’s weight ($M \pm SD = 2.28 \pm 1.17$), and not to have a high restriction for sweet or high-fat foods ($M \pm SD = 3.59 \pm 1.04$).

This study considered caregiver’s concerns for children's eating as a proxy of caregiver’s socioeconomic and demographic factors. For example, caregivers with a higher education degree might be more likely to be concerned about their children's eating. Comparison analyses were performed for the proxy variable by socioeconomic and demographic information to estimate whether or not caregiver’s concerns for children’s eating played a role as a proxy variable of caregiver's gender, age, education, marital status, and occupational status.

In order to simplify comparisons, this study grouped five categories of education levels into three groups (Low: less than high school, high school and associate degree, Middle: baccalaureate degree vs. High: graduate degree), five categories of age into three groups (Low: 18-24 and 25-34, Middle: 35-44 vs. High: 45-54 and 55-64), four categories of marital status into two groups (Unmarried: single, divorced and widowed vs. Married), three categories of occupational status into two groups (Not full time, employed part time and not currently employed vs. Full time). Table 14 reports the comparison results. Caregiver's concerns for children's eating were not significantly
different according to socioeconomic and demographic factors. In general, caregivers were moderately concerned about children's eating, regardless of their gender, age, education level, marital or occupational status. Based on the comparison results, it was doubted that caregiver's concerns for children's eating is a proxy for socioeconomic and demographic factors. Therefore, analyses to investigate moderating roles of socioeconomic and demographic factors were conducted for all such factors separately. The findings were not different with those of moderating analysis of caregiver's concerns for children's eating. Only the results of moderating analysis of caregiver's concerns for children's eating are presented in the above result section.
Table 14. Comparison of caregiver's concerns for children's eating.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M ± SD</th>
<th>F-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>221</td>
<td>3.34 ± 0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>65</td>
<td>3.44 ± 0.69</td>
<td>1.53</td>
<td>0.218</td>
</tr>
<tr>
<td>Female</td>
<td>156</td>
<td>3.31 ± 0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>49</td>
<td>3.33 ± 0.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>119</td>
<td>3.31 ± 0.70</td>
<td>0.54</td>
<td>0.585</td>
</tr>
<tr>
<td>High</td>
<td>53</td>
<td>3.43 ± 0.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>49</td>
<td>3.46 ± 0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>121</td>
<td>3.36 ± 0.68</td>
<td>1.76</td>
<td>0.174</td>
</tr>
<tr>
<td>High</td>
<td>51</td>
<td>3.20 ± 0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unmarried</td>
<td>35</td>
<td>3.31 ± 0.78</td>
<td></td>
<td>0.11</td>
</tr>
<tr>
<td>Married</td>
<td>186</td>
<td>3.35 ± 0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not full time</td>
<td>39</td>
<td>3.21 ± 0.64</td>
<td></td>
<td>1.63</td>
</tr>
<tr>
<td>Full time</td>
<td>182</td>
<td>3.37 ± 0.72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Caregiver's concerns for children's eating is a summated scale of three subcategories:
(1) caregiver's perceived responsibility was measured from 1: *Never* to 5: *Always*,
(2) caregiver's concern about a child's weight was measured from 1: *Unconcerned* to 5: *Very concerned* and (3) caregiver's restriction of food selection was measured from 1: *Disagree* to 5: *Agree*, Birch et al. (2001)

2 Low: 18-34, Middle: 35-44, High: 45-64 years old

3 Low: less than or associate degree, Middle: baccalaureate degree, High: graduate degree
Testing possible interaction effect of two independent variables

As an additional analysis to support the suggested conceptual map, two-way ANOVA assessed whether or not provision of healthful children’s foods and nutrition information interact with each other on willingness to select restaurants. The potential interaction was addressed because previous studies (Howlett et al., 2009; Kozup et al., 2003) showed that individuals tend to have favorable attitudes toward healthful items. Thus, when healthful children's foods and nutrition information are provided simultaneously, caregivers would have the highest willingness to select restaurants. On the other hand, even though restaurants provide nutrition information, if they serve only conventional items without healthful options, their willingness to select the restaurants would be decreased without the effect of nutrition information. This study did not include this potential interaction effect in the conceptual model for two reasons. First, the addressed interaction effect was supported for customer's attitude toward foods itself, not toward restaurants. Second, a few studies (Cranage et al., 2004, 2006) showed positive effects of presenting nutrition information even in the situation of no changes on food items.

Table 15 shows that these two initiatives did not interact with each other on willingness to select restaurants ($F = 0.70, p = 0.404$). It means that caregiver's reactions toward healthful children's foods (nutrition information) were not affected by provision of nutrition information (healthful children's foods) on menu. Thus, the suggested conceptual model without an interaction between two initiatives on the dependent variable stands.
Table 15. ANOVA result about possible interaction effect between healthful children’s foods and nutrition information on willingness to select restaurants.

<table>
<thead>
<tr>
<th>Source</th>
<th>F-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthful children’s foods</td>
<td>198.03</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Nutrition information</td>
<td>2.40</td>
<td>0.122</td>
</tr>
<tr>
<td>Healthful children’s foods *</td>
<td>0.70</td>
<td>0.404</td>
</tr>
<tr>
<td>Nutrition information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2 = 0.496$ (Adjusted $R^2 = 0.489$)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Caregiver's dining behavior**

On average, caregivers eat out with their child three times ($M \pm SD = 3.21 \pm 2.3$) a month in a sit-down family restaurant. The range of eating out frequency varied widely from 1-20 times. Caregivers rated their influence on food selection for children at restaurants with an average score of 3.6 on a 5-point response scale. The age that caregivers think they lose control over food selections for their child at restaurants is widely distributed from 1-16 years old. On average, caregivers responded that they lose control over food selection for children at restaurants when their child is 8 years old ($M \pm SD= 7.97 \pm 3.58$).

This study, also, estimated how many calories of menu items caregivers selected for their children from provided menus (Table 16). Two menus with healthful children's foods did not contain a side item option of French fries, which was presented in other two menus without healthful children's foods. Thus, calories of French fries (290 kcal) were not added to total calorie selection. Almost a third of caregivers who received menus
without healthful children’s foods did not select a beverage or main dishes because they could not find healthful items. They said “There were no healthy choices.” “There are only poor quality food & beverage.” The remaining responses after excluding data with non-responses on food selection due to above reasons were analyzed.

Reasons why caregivers selected certain items were examined. Total calories of selected items were compared to investigate whether caregivers chose a different amount of calories by each type of menu. For reasons to select certain items, most caregivers said that the items are what their children would eat. The next consideration is healthfulness of items. Calories of items selected by caregivers for children ranged from 292 kcal to 1,060 kcal ($M \pm SD = 688 \pm 219$). The meal of the lowest calories was composed of apple juice (100 kcal) and fish tacos, salsa with baked tortilla chips (192 kcal). A combination of chocolate milk (320 kcal) and mini cheeseburger (740 kcal) generated the highest calories. Calories selected by caregivers with nutrition information ($M = 676$ kcal) and those by caregivers without nutrition information ($M = 701$ kcal) were not significantly different. On the other hand, caregivers with healthful children's foods choose an average of 293 fewer calories for their children than did counterparts (577 kcal vs. 870 kcal; $p<0.001$). These results showed that nutrition information on menus did not affect caregiver's food selections for their children; however, they tried to select healthier options when these are available.
Table 16. Calories selected by caregivers.

<table>
<thead>
<tr>
<th>Menu</th>
<th>Condition</th>
<th>M ± SD (kcal)</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthful children’s foods</td>
<td>Yes</td>
<td>576.57 ± 190.65</td>
<td>13.07</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>870.08 ± 116.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition information</td>
<td>Yes</td>
<td>676.27 ± 199.52</td>
<td>0.76</td>
<td>0.447</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>700.94 ± 239.15</td>
<td></td>
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</tr>
</tbody>
</table>

**Summary**

This chapter presented results of statistical analyses about socioeconomic and demographic information, reliability of measurement items, testing of mediating and moderating roles of major constructs. The study hypotheses were analyzed with regression analyses and ANOVAs. The results supported the suggested conceptual model in Figure 1, except for the moderating role of caregiver's concerns for children's eating on the relationships starting from nutrition information.

From the results of regression analyses, it was found that provision of healthful children’s foods increased caregiver’s willingness to select restaurants through partial mediation effects of consumer empowerment and perceived CSR. On the other hand, provision of nutrition information positively affected caregiver’s willingness to select restaurants through complete mediations of consumer empowerment and perceived CSR. These regression results suggest that when caregivers are offered healthful children's
menus and nutrition information at restaurants, they tend to feel empowered and perceive the restaurants to be socially responsible. Consequently, these positive reactions lead them to have high willingness to visit the restaurants.

It was originally assumed that caregivers with high concerns about children's eating would react more strongly and positively to provision of healthful children's foods and nutrition information compared to those with low concerns. However, caregiver's concerns for children's eating did not affect the extent to which caregivers react to nutrition information. The moderating role of caregiver's concerns for children's eating appeared only in the relationships starting from healthful children's foods to consumer empowerment and perceived CSR. When there are healthful children's foods, caregiver's feeling of empowerment and perception of CSR increased significantly more in high concern group than in low concern group.
Chapter 5

Discussion, Conclusions, and Recommendations

This chapter begins with an overview of the study design, followed by a discussion summarizing the key findings. Conclusions and implications of the study are presented and limitations are discussed, as well as recommendations for future studies.

Overview of the study design

Using a quasi-experimental design, this study tested the effects of providing healthful children’s foods and nutrition information on caregivers’ feelings of empowerment and perceptions of corporate social responsibility, and consequently on their willingness to visit restaurants. Also, this study investigated whether caregivers’ reactions were related to their level of concern about children’s eating. In this study, caregivers living with children aged 2 to 15 years old who ate in sit-down family restaurants with their children at least once a month participated in an online survey. The online survey contained experimental stimuli consisting of real children’s menus; the manipulation was the provision of healthful children’s foods and nutrition information. Every caregiver randomly received one of four menus and answered questions to measure empowerment, perceived CSR, willingness to visit restaurants and concerns about children’s eating.
Discussion

This study is potentially important because it investigated a unique research topic: caregivers’ reactions to restaurants implementing healthy eating initiatives targeted at children. This study’s central research motivation was to prevent childhood obesity by creating more healthful eating environments for children, especially in restaurants. The first thing a restaurant can do is serve healthful children’s foods, such as low-calorie or low-fat items. Second, a restaurant can help caregivers or children select healthful items, for example, by providing nutrition information. However, the desire to make restaurant environments more healthful may primarily lie with nutritionists. If restaurateurs do not see any potential profits or if they worry about potential related revenue losses, restaurateurs will not embrace change. Thus, this study’s main research question focused on this perspective by asking, “When restaurateurs provide more healthful children’s foods and nutrition information on their children’s menus, what potentially will happen to business?” If enough caregivers demand healthy eating initiatives and restaurateurs are rewarded with increased sales, they will be more likely to make changes.

Just a few studies (Tandon et al., 2010; 2011) have focused on whether parents select lower calorie items for their children in fast food restaurant settings, or demonstrated increasing demands among caregivers for healthful kid’s foods (Cobe, 2013; Irwin, 2012). No published studies have investigated whether caregivers actually react positively to healthy eating initiatives and if so, why. By using an experimental design, this study clearly shows causal relationships between healthy eating initiatives and caregivers’ positive reactions, including high willingness to select restaurants.
(healthful children’s foods on willingness to select restaurants: $\beta = 0.70, p<0.001$,
nutrition information on willingness to select restaurants: $\beta = 0.19, p= 0.006$).

This particular study focused on whether or not caregivers wanted to visit restaurants with healthy eating initiatives (i.e., willingness to select restaurants). Specific food selections were not a main concern of this study. In other words, this study focused on potentially getting caregivers and their children in the door of restaurants regardless of the foods they ultimately choose to select, since food selection is a topic that has been covered extensively by public health researchers. Instead, this study has implications for the restaurant industry. In order to reveal the underlying dimensions of caregivers’ reactions, consumer empowerment and perceived corporate social responsibility were measured.

**Consumer empowerment**

This study adopted the concept of consumer empowerment, which is increasing consumer value by providing additional choices and information, to explain the effects of healthful children’s foods and nutrition information at restaurants. The results of regression analyses support hypotheses 1-3, suggesting that consumer empowerment plays a mediating role. Nutrition information was completely mediated by consumer empowerment. It means that caregivers in this study were more likely to visit restaurants that provided nutrition information because they felt empowered by the additional information, not because of the nutrition information content. In other words, nutrition information itself does not have impact on attracting caregivers to frequent restaurants on
its own. Feelings of empowerment resulting from the provision of nutrition information lead to high willingness among caregivers to select restaurants. On the other hand, healthful children’s food has its own impact on caregivers’ behavioral intentions because it is partially mediated by consumer empowerment. This indicates that caregivers want to visit restaurants that provide healthful children’s foods, not only because they serve such items, but also because they feel empowered by having additional options.

The overall result about the mediating role of consumer empowerment is supported by previous studies (Langer & Rodin, 1976; Spreitzer, 1996). For example, when people make a better-informed choice from among a larger pool of options, they tend to feel empowered. Furthermore, empowered consumers are more satisfied with service outcomes (Wathieu et al., 2002). These prior studies examined the relationships between additional information/choices and empowerment, and empowerment and positive perceptions separately. No published studies have related additional information/choices with empowerment and positive perceptions. This study proved the relationship among the three variables by revealing the mediating role of consumer empowerment.

This study also examined the relationship between nutrition information and empowerment, which was suggested, but not determined in Cranage et al.’s (2004, 2006) studies. They assumed that people felt empowered by nutrition information and consequently, had a favorable attitude toward overall quality of restaurants. They measured only attitude and purchase intentions, and thus, did not discover the mediating role of empowerment. By investigating the mediating role of consumer empowerment, this study contributes to the literature related to empowerment and nutrition information.
This study’s findings on whether additional menu options and information always increase empowerment provide a counterview on the negative effects of consumer empowerment. Wathieu and colleagues (2002) introduced consumer empowerment as a promising research area, but at the same time cautioned researchers about generalizing its effects. They said that greater consumer control may not always elicit perceptions of empowerment, and greater perceptions of empowerment may also involve costs for consumers. Their reasoning was that expanding the set of available options may not always increase perceptions of empowerment due to excess cognitive load. In addition, they posited that the opportunity to observe or contact other consumers involved in the same environment is a key element of valuable information that may become increasingly important as more consumer control is added.

For this study, the main researcher explored websites of sit-down family restaurants with children’s menus to learn how many items from those menus are usually served, on average. The result ranged from four to seven items. Thus, the developed menu stimuli contained seven items (three conventional and four healthful items) for the healthful menu options and five conventional items for the non-healthful menu options. Also, participants in this study were provided with only four types of nutrition information to mitigate any potential excess cognitive load issues, even though some researchers recommended adding sugar or fiber amounts, too. It would be interesting to measure caregivers’ perceptions of cognitive load for each version of the menu. Information on other customers is consistent with the concept of social norms, which refers to the fact that individuals tend to follow the actions of others and do what other people think is desirable. Pilot study A found that subjective norms, that is, whether
caregivers’ friends or family members supported their behaviors, influenced healthy dining behaviors at restaurants. It would be interesting to measure effects of social norms in future studies.

**Perceived CSR**

This study also proposed caregivers’ perceptions of corporate social responsibility as another mediator. Previous research has rarely investigated whether sit-down family restaurant patrons consider providing healthful items and nutrition information as CSR actions, particularly with regard to children’s menus. When restaurants implement healthful eating initiatives, they want to be perceived as socially responsible (Economos et al., 2009). This study clearly shows that when restaurants provide healthful items and nutrition information for children, caregivers perceive the restaurants to be socially responsible; consequently, they have a high willingness to visit the restaurants. Thus, hypotheses 4-6 are supported.

Results for the mediating role of perceived CSR show similar patterns to those found for the mediating role of consumer empowerment. Nutrition information is completely mediated; however, healthful children’s food is partially mediated by perceived CSR. These findings suggest that caregivers are more likely to visit restaurants that provide nutrition information because they perceive the restaurants to be socially responsible, not because of the nutrition information content per se. Also, this indicates that caregivers want to visit restaurants that provide healthful children’s foods not only
because they serve such items, but also because they perceive the restaurants to be socially responsible.

These results support the assertions that considering customers’ health and safety is one important dimension of CSR (Maloni & Brown, 2006) and that implementing such initiatives can be an effective marketing strategy by supporting a socially responsible image (Royne & Levy, 2008). Previously, it was shown that the CSR actions of tourism companies (Nicolau, 2008) and the environmental and philanthropic actions of manufacturing companies (Mohr & Webb, 2005) positively changed customers’ evaluations of products and companies. Like CSR actions in other industries, providing healthful children’s foods and nutrition information were found to have a positive impact on caregivers’ perceptions and behavioral intentions being perceived as CSR actions.

This study provides some evidence that refutes negative relationships between CSR activities and financial performance or consumers’ purchasing behaviors. Kang et al. (2010) showed no effect of restaurants’ CSR actions on profitability. It is hard to assert that the high willingness among caregivers to select restaurants in this study will be directly related to profitability. However, the results of this study do indicate a potential positive influence on sales. Sen and Bhattacharya (2001) concluded that CSR’s influence on consumers’ product purchase intentions is more complex than a straightforward positive effect on company evaluations; in fact, CSR initiatives can, under certain conditions, decrease consumers’ intentions to buy a company’s products. For example, consumers’ reactions differ according to their support of specific CSR domains and perceptions of congruence between themselves and a company. This study, as the first to investigate the effects of CSR actions on customer health and safety, focused on the basic
relationship between a restaurant’s CSR actions and consumers’ behavioral intentions without mediators or moderators. More detailed future studies about restaurants’ CSR actions are recommended based on the findings of this study.

This study is significant because it augments the body of literature about corporate social responsibility, especially as it pertains to restaurants. 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, since it not only is closely related to life quality but also plays a large role in the national economy and employment (NRA, 2013). Recently, “green” restaurants and foods have garnered increased attention from researchers (Hu et al, 2010; Jang et al., 2011). However, customer health and safety and other dimensions, including ethical labor management and environmental concerns, are rarely investigated. Given the importance of the restaurant industry, there is a need for additional research to investigate the impact of restaurants’ CSR actions.

**Caregivers’ concerns about children’s eating**

Caregivers’ concerns about children’s eating did not differ based on socioeconomic and demographic characteristics. Results of concerns showed that all caregivers were moderately concerned about children’s eating regardless of age, gender, education level, occupational status and marital status. These unexpected results were not in accordance with previous studies that stressed relationships between socioeconomic and demographic factors and dietary behaviors (Bower et al., 2003; Drichoutis et al.,
2008). It is a conventional notion that people from low SES backgrounds who are male and younger are less likely to be concerned about dietary quality.

First, it was questioned whether these unpredicted results were related to the fact that the subjects were caregivers who were concerned about children’s eating, not their own eating. Parents are being responsible and conscientious if they take actions for their children. Also, they might worry more about the healthfulness of the foods and beverages they buy for their children than those they buy for themselves (International Food Information Council Foundation, 2013). However, in prior research, parents’ feeding behaviors were found to differ by education, income and age (Cooke et al., 2003; Honajee et al., 2012). For example, children of parents with higher education levels ate more vegetables.

Next, it was questioned whether caregivers’ actual behaviors were more affected by socioeconomic and demographic factors than their concerns. This study measured “concerns,” not actual behaviors, which was the construct often measured in previous studies. In other words, caregivers are concerned about their children’s eating, but social or environmental factors related to socioeconomic and demographic factors may affect caregivers when their behaviors follow concerns. For example, even though caregivers are concerned about children’s fast food consumption, if many fast food restaurants are located in neighborhood, or if healthful items are expensive, they may feel obliged to allow children to consume unhealthful or fast food items. The Yale Rudd Center (2012) reported that regardless of age, gender, and household income, parents attributed 60% of the increased obesity rate to personal responsibility and the remaining 40% to an unhealthy food environment. Parents mentioned many obstacles to fostering healthy
eating habits for children, which included the cost of healthful and organic food and easy access to fast food restaurants, snack/junk foods, etc. The results of this study suggest that most caregivers are moderately concerned about children’s eating habits regardless of their socioeconomic and demographic characteristics, even though their behaviors may be more influenced by such factors.

Even though results of this study revealed significant moderating effects of caregivers’ concerns about children’s eating on reactions to healthful children’s foods, it is hard to conclude that in general, highly concerned caregivers react more strongly to healthy eating initiatives than less concerned caregivers. This is because a moderator was not found in the relationships starting from nutrition information and was weakly found in the relationships from healthful children's foods. Pilot study B (Lee et al., 2013) showed an individual’s health consciousness to play a moderating role only on the relationships from healthful food items. Thus, these findings imply that people (including caregivers) react to nutrition information similarly, regardless of concerns about children’s eating. One explanation might be that actual nutritional values are difficult to interpret, even by people who are highly concerned about diet.

Based on the results of Cooke et al.’s (2003) study, it was expected that caregivers’ concerns would be related to children’s gender or age in this study. Further analyses were conducted to see whether caregivers’ concerns were affected by the characteristics of their children. Caregivers’ concerns were more likely to be influenced by child gender and by number of children in a household. Caregivers for boys tended to be more concerned about children’s eating than those for girls ($M_{\text{boys’ caregivers}} = 3.52$ vs. $M_{\text{girls’ caregivers}} = 3.17$; $t(218) = 3.820, p<0.001$). The high concern group had slightly more
children in the household than the low concern group \( (M_{\text{low concern}} = 1.48 \text{ vs. } M_{\text{high concern}} = 1.78); t(219) = -3.820, p = 0.001 \). Finally, this study revealed that caregivers’ concerns about children’s eating were more likely to be influenced by the children’s characteristics than by their own socioeconomic and demographic characteristics. The ANOVA results showed that highly concerned caregivers were more likely to react to the provision of healthful children’s foods than less concerned caregivers. Analyses also revealed caregivers’ concerns to be differentiated by children’s gender and the number of children in a household. Therefore, findings from this study can help restaurateurs as well as foodservice marketers better target their advertising based on customer characteristics that are associated with parental choices for family dining.

**Healthful children’s foods vs. nutrition information**

Overall, the impact of nutrition information on perceptions and behavioral intentions was smaller with lower beta coefficients than the impact of healthful children’s foods (Table 16 and Table 17). Likewise, analyses of total meal calories selected by caregivers did not show that nutrition information affected caregivers’ food selections. Past research has found incongruent results about nutrition information: nutrition information effect vs. no effect on healthful food selection. This study supports the latter side of the argument about nutrition information as shown in Tandon et al.’s (2011) study, where calories ordered for children did not change before, between, or after the nutrition information regulation was adopted. On the other hand, Tandon et al. (2010) showed that parents who were provided with nutrition information on children’s menus selected 102
fewer calories. These incongruent results about nutrition information on children’s menus need more attention in order to be clearly explained by researchers.

The lack of effect of nutrition information on food selection in this study seems to contradict parents’ increased desire to be provided with nutrition information. Irwin (2013) reported that more mothers are reading food labels now ever than before. The results of this study seem to show that caregivers are less likely to read nutrition information at restaurants than at grocery stores. Perhaps caregivers’ actual food selections are not consistent with their willingness to see nutrition information. It was found that while almost 40% of consumers tried to avoid or reduce intakes of fats and oils, sodium and sugar, only 10% actually searched this kind of information on menus when dining out (Watson, 2013). Their positive reactions toward healthful children’s menus in this study support caregivers’ increasing demands for healthful eating environments at restaurants for children found in other studies (Cobe, 2013; Thorn, 2013).

**Conclusions and implications**

The results of this study strongly support recommendations that sit-down family restaurants with children’s menus develop healthful options and present nutrition information in order to entice more caregivers to eat out with children at their restaurants. Providing healthful children’s foods and nutrition information led caregivers to have high willingness to visit restaurants by increasing their feelings of empowerment and perceptions of restaurants’ corporate social responsibility. Caregivers’ high intentions to visit restaurants can be considered a sign of potential increased sales. This study was
conducted in a sit-down family restaurant setting. Thus, suggested implications in this section should be carefully adapted to other types of restaurants frequented by families.

Both healthful children’s foods and nutrition information were mediated by consumer empowerment and perceived corporate social responsibility, partially or completely. Findings suggest that restaurateurs could expect to see a socially responsible image develop from providing caregivers enough information to help them select more healthful foods. Overall, providing healthful children’s foods had a stronger impact and was more independently related to willingness to visit a restaurant than providing nutrition information. Therefore, if restaurateurs need to choose only one option or to change their environments incrementally, converting menus into healthful items is recommended first before presenting nutrition information. Presenting nutrition information may increase a restaurant’s costs, for example, especially if professional services are required for nutrition analysis of menus.

In addition, offering healthful children’s foods may lead to significantly lower-calorie restaurant meals purchased for children. In this study, the calories of food items selected by caregivers did not differ when nutrition information was provided. By providing healthful children’s foods, restaurateurs may contribute to public health, especially children’s health status. Public policy makers and nutritionists may need to develop encouraging strategies to convince more restaurants to provide healthful items.

Caregivers’ socioeconomic and demographic information did not influence the extent to which they reacted to healthy eating initiatives. Caregivers’ concerns about children’s eating moderated the relationships between healthful children’s foods and consumer empowerment/perceived CSR, but did not moderate the relationships
beginning with nutrition information. Upon seeing healthful items, highly concerned caregivers felt increased empowerment and perceived restaurants to be socially responsible more than less concerned caregivers. The finding that nutrition information had no moderating effect implies that nutrition information on children’s foods would have positive effects, regardless of a restaurant’s neighborhood. Caregivers’ concerns about children’s eating were found to be high among caregivers with boys and more children in a household.

**Limitations and recommendations for future study**

There are several limitations and recommendations for future study. First, this study employed a scenario-based experimental design, which required caregivers to imagine a described situation. Using scenarios in which independent variables were manipulated created internal validity and enabled the identification of clear causal relationships. Even though this experimental design would be better than a cross-sectional study measuring constructs, a field-experimental study with real customers is recommended for future study to avoid a reality issue.

Second, this study had low internal consistency of consumer empowerment measurement items. Even though the mean inter-item correlation showed this construct to be measured by reliable items, other researchers might question a low Cronbach’s alpha. Therefore, future studies should refine the measurement of consumer empowerment.

Third, the present research did not use structural equation modeling even though it had two mediators and a moderator together in a model. By performing regression
analyses and ANOVAs several times, this research could not consider error terms. Future research may need to use SEM or alternative analyses.

Fourth, significantly different response patterns were revealed between data from parents of middle school students and data from alumni of a hospitality program at a large Northeastern university. This difference might have been due to the ages of the children. In this study, caregivers stated that they lost the ability to influence children’s food choices at restaurants by age eight. Future study needs to further explore the effect of children’s age on caregivers’ behaviors toward restaurants.

Fifth, this study considered caregivers’ socioeconomic and demographic characteristics as major confounding factors. Future studies may need to measure cognitive load or social norms (Wathieu et al., 2002) to investigate any confounding effects. For example, it would be interesting to see how much caregivers experience excessive cognitive load and how social norms influence their behaviors when healthful items and nutrition information are provided on children’s menus.

Finally, this research did nothing to inform caregivers that there were healthful items on menus in any scenario. It would be interesting to see whether additional symbols or indicators for healthful items would maximize the effect of providing them. The results showed that nutrition information did not influence caregivers’ food selections. This study provided nutrition information as numeric values only, which may not attract enough attention; consequently, the findings did not show the potential influence of nutrition information. Future studies might consider using colored ink or symbols on children’s menus as more interesting and effective ways to present nutrition information. Past studies (Dowray et al., 2013; Ellison et al., 2013; Jones & Richardson, 2007) showed
that when used in addition to numeric nutrition information, symbols helped customers choose more healthful items than when only numeric information was present. Adding a traffic light system to numeric calorie information helped customers find foods with important nutrients (Jones & Richardson, 2007) and reduced caloric intake (Ellison et al., 2013). Informing miles-to-walk to burn a certain number calories in addition to calorie information reduced the number of calories ordered than when only calorie information was provided (Dowray et al., 2013). Also, menu presentations that children engage with (Thorn, 2013) needs to be considered because power in food selection moves from caregivers to children as they get older.
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Appendix A

Published pilot study A
CHILDREN AND HEALTH

Predicting Caregiver Behaviors Toward Restaurants Providing Healthful Children’s Menus With Nutrition Information
A Pilot Study

Kiwon Lee, MS; Martha Conklin, PhD, RD;
Peter Bordi, PhD

The purpose of this pilot study was to determine how caregiver dining behaviors at restaurants providing nutrition information on healthful children’s menus can be predicted, and to investigate caregiver loyalty to such restaurants. A questionnaire was developed on the basis of the theory of planned behavior and distributed to qualified participants by e-mail. A total of 104 cases were analyzed. Caregiver intentions were regressed on attitudes, subjective norms, and perceived behavioral controls. The results suggest that caregiver behaviors can be predicted using the theory of planned behavior. Caregivers tended to be loyal to restaurants providing nutrition information on healthful children’s menus. Key words: caregiver behaviors, children’s menus, theory of planned behavior, nutrition information, healthful options

The rate of childhood obesity has been continuously increasing and has more than tripled over the last three decades until recently when the rate has diminished.1,2 Much of the concern about childhood obesity stems from both immediate and long-term health implications. Children who are obese or overweight are more likely to have risk factors for metabolic, orthopedic, psychological, neurologic, hepatic, pulmonary, and renal problems,3,4 and to have higher morbidity, premature mortality, and obesity in adulthood.4,5 Given the evidence, childhood obesity should be prevented to improve health status, not only in childhood but also over the lifespan.

Prevention efforts, to offset concern about the seriousness of childhood obesity, have been implemented at various levels, including national, community, and school-based strategies. In 2011, first lady Michelle Obama launched a nationwide campaign, “Let’s Move,” to help prevent childhood obesity. The Institute of Medicine8 has provided guidance on obesity prevention policies for young children, and the Centers for Disease Control and Prevention7 have supported school-based strategies and local wellness policies. These interventions have been developed with an understanding of factors underlying childhood obesity.

Many studies10-13 have investigated potential determinants of childhood obesity. A complex interplay of factors, including dietary
practices, environmental influences, familial impact, food and financial security, and physical activity, causes childhood obesity. Story et al.\(^\text{14}\) suggested that a large ecologic system influences what people eat. The ecologic framework consists of individual factors and environmental contexts, which include social, physical, and macro-level environments. As a physical environment for children, restaurants influence food availability and create obstacles and opportunities that facilitate or hinder healthy eating by children. Eating outside the home has been considered a critical factor in childhood obesity because of the high amounts of calories, fat, and sodium and large portion sizes associated with food-away-from-home (FAFH). All of these restaurant practices are beyond parental control\(^\text{15-18}\) once the decision to dine out has been made, with American children dining out more than ever.\(^\text{19}\)

Increasing energy intakes among children are correlated with an increase in kilocalories eaten away from home, mainly from fast foods, followed by restaurant and school foods.\(^\text{20}\) According to a report assessing children’s menus at restaurants including table service and fast food, few healthful options were available. Most of the restaurants did not provide parents with nutrition information or identify more healthful options.\(^\text{21}\)

Reeves et al.\(^\text{22}\) have shown that neither fast food nor table service restaurants provided nutrition or portion size information, and food items did not follow the nutrient-based standards for lunch for primary school children. Some studies\(^\text{15,25}\) comparing the nutrition quality of fast food and table service meals have even shown that meals at table service restaurants tend to be less healthful than fast food, which implies a greater percentage of calories from fat, larger portion sizes, and more total calories for children’s meals.

Most efforts aimed at FAFH have focused on fast foods with relatively little attention paid to sit-down family restaurant foods. More studies about children’s foods at sit-down family restaurants are needed to improve poor nutrition quality. Thus, this pilot study targets children’s menus at sit-down family restaurants.

To overcome consumer concerns about low-quality restaurant foods and the paucity of healthful children’s meals, the National Restaurant Association\(^\text{24}\) declared a Kids LiveWell program offering more healthful kids’ menus at 15 000 restaurants participating voluntarily. Even though many restaurants are part of the program, the overall participation rate is relatively small compared with the total number of restaurants (960 000 locations). Glanz et al.\(^\text{25}\) showed that profit margins are the primary factor motivating restaurant executives to provide healthful options. If restaurant decision-makers believe that they can achieve a potentially greater profit margin from offering more healthful kids’ menus, they might consider providing them. The potential profit margins could stem from caregiver willingness to order from healthful kids’ menus or increased family dining frequency at this type of restaurant.

Parents influence their children’s eating behaviors from birth. Some studies have shown that parental feeding is related to children’s weight status.\(^\text{26,27}\) We know that children are accompanied by parents when eating at restaurants and that parents have the power to decide where their children eat. An understanding of parents’ decisions toward restaurants and food selection for their children is important for restaurant managers who want to increase family dining sales.

As children eat away from home more frequently, parents lose control over the quality of their children’s diets. A report from the White House Task Force on Child Obesity\(^\text{28}\) stated that menu labeling is an important tool for empowering parents and caregivers.

The necessity of providing nutrition information on menus has been of concern for a long time. A lack of information on menus denies customers the right to choose healthful foods when dining. It has been shown that most consumers are unaware of high levels of calories and fat and underestimate actual calorie content.\(^\text{29}\), even nutritionists find it
difficult to estimate calories. Tandon et al. showed that parents of children aged 3 to 6 years ordered an average of 102 fewer calories for children when being exposed to nutrition information than those without nutrition information. Burton et al. reported that consumers positively changed their attitudes, intentions, and choices when exposed to calorie and nutrient information. In a study examining the behavior of 7318 customers from 275 fast food restaurants, Subway customers with access to nutrition information purchased meals with an average of 52 fewer calories than people without access to nutrition information, and a third of participants said that nutrition information affects what they select. Freedman and mentioned that point-of-selection nutrition information in university dining halls decreased the percentage of students ordering large portions of high caloric foods such as French fries. Also, previous studies have shown that providing nutrition information increases customer repurchase intentions and satisfaction with restaurants has been exemplified by higher ratings for food quality.

Very few studies have investigated how nutrition information helps parents guide their children’s food choices at sit-down family restaurants. Researchers and practitioners need to consider nutrition information as an effective tool that can strengthen parental control and foster healthier eating while dining at restaurants. If a restaurant supplies nutrition information about healthful items on its children’s menu, parents may be grateful for the help in promoting healthier eating habits and become more frequent, loyal customers of the restaurant. Thus, useful information for the foodservice industry would be provided by examining how parental behavior is affected by nutrition information on kids’ menus. Few studies have investigated the dining out behaviors of caregivers with their children, especially at sit-down family restaurants. Similarly, little is known about caregiver perceptions of children’s menus.

The purpose of this pilot project was to determine how caregiver dining behavior in sit-down family restaurants that provide nutrition information on healthful children’s menus can be predicted, and to investigate caregiver loyalty to such restaurants. Four specific caregiver dining behaviors were examined: (a) dining frequency at the restaurants, (b) recommending the restaurants to others, (c) selecting or helping children choose healthful options, and (d) considering menu information when ordering foods for children. The first 2 behaviors were considered an indication of caregiver loyalty to this type of restaurant. In particular, an instrument was developed in a pilot study to measure determinants of caregiver behaviors. Other researchers might find this instrument a useful tool to develop their questionnaires to investigate caregiver dining out behavior.

PILOT STUDY PROCEDURES

Instruments

Previous studies have shown that the theory of planned behavior (TPB) successfully predicts food choice behavior such as fruit and vegetable consumption or following a low-fat diet. More specifically, Sharma et al. and Stubenitsky et al. have used the TPB to demonstrate how food selections shift toward healthful options after individuals are exposed to nutrition information in sit-down restaurant settings. On the basis of this literature, this pilot study assumed that caregiver behaviors toward restaurants providing healthful children’s menus with nutrition information can be predicted by their attitudes, subjective norms, and perceived behavioral controls (PBCs). The TPB is shown in Figure 1.

Questions to measure the TPB variables were developed on the basis of the literature, which included conceptual papers about TPB and empirical papers focusing on food-related behaviors. The beta version of the questionnaire was reviewed by a panel of parents who are also researchers.

Determinants of caregivers’ behaviors

Prediction accuracy is influenced by the level of specificity of a target behavior. Thus, caregivers were asked to read a short
Figure 1. Conceptual framework of the dining out behaviors of caregivers with children based on the theory of planned behavior.

A scenario describing a particular sit-down family restaurant providing healthful children’s options with menu information and consider eating out with their child for lunch or dinner on a usual day (Figure 2).

Attitudes toward 4 specific behaviors were measured with 4 items, including, “My attitude toward ___ is (extremely unfavorable to extremely favorable).” The 4 items were summed to form a measure of attitude. Subjective norms were measured with 4 items, including, “Most people who are important to me think I should ___ (strongly disagree to strongly agree).” The 4 items were summed to form a subjective norm measure. Perceived behavioral controls were measured with 4 items, including, “If I wanted to, I could easily ___ (strongly disagree to strongly agree).” The 4 items were summed to form a measure of intention. A 5-point Likert-type scale of responses was used for each item.

Caregiver opinions about children’s menus and dining behavior at restaurants

Caregiver opinions about current children’s menus and their dining behaviors at sit-down family restaurants were assessed using 7 items which were answered on a scale of 1 (strongly disagree) to 5 (strongly agree). Dining frequency in a sit-down family restaurant with their child was collected for an average month. The extent to which they dine out to replace meals at home was measured on a scale of 1 (strongly disagree) to 5 (strongly agree). Caregivers were asked to select the primary factor influencing food choices for their children factors including price, nutrition, taste, popularity or favorites, or food-related ailments.

Demographic information

Demographic data included age and gender of the caregivers and children. If more than 1 child lived in the caregiver’s home, they were asked to respond in relation to only 1 child in the household. Each caregiver reported their

Please assume that a particular sit-down family restaurant provides healthful options with menu information (e.g., actual number of nutrients, healthy symbol, or traffic light) on its children’s menu. You decide on eating at this restaurant with your child for lunch or dinner. No special events are involved (e.g., birthday party or pay day) around today. Please answer the following questions while focusing on your behavior towards dining at this restaurant with your child using the children’s menu.
educational level, marital status, occupational status, and family role.

Data collection

Participants were recruited from a list of individuals who take part in consumer surveys sponsored by a university in the northeastern United States. A recruitment and screening survey was conducted online from July to September 2011. Participants were required to meet the following 2 criteria to participate in the main survey: (a) they had to be parents or caregivers living with children who were between 2 and 15 years old and (b) they had to dine with children in restaurants (other than fast food) for lunch or dinner at least once a month. A total of 281 participants met the 2 criteria and were willing to participate in the main survey. After being sent informed consent forms, they participated in the main survey in September and October 2011. Participants who submitted the survey received a $5 gift card. The Institutional Review Board of the university approved this study.

Data analysis

Analysis of variance was used to investigate whether determinants (attitudes, subjective norms, PBCs) of caregiver behaviors differ on the basis of caregiver demographic factors. Pearson’s correlation coefficient was calculated to measure relationships between those determinants. Multiple regression analysis was used to determine whether intention is predicted by the 3 antecedents of behavioral intention (attitudes, subjective norms, and PBC).

Findings

The rate of return was 37%, and the total number of usable cases was 104. Around 90% of participants were parents and the remaining respondents were grandparents; 79% were female. Participant education levels were distributed widely; participants held high school diplomas (18.3%), associate’s degrees (20.2%), baccalaureate degrees (33.7%), and graduate degrees (27.9%). The ages of the respondents ranged between 25 and 64 years (47.1% were 35 to 44 years old). Most people (93%) had full-time jobs. Around 80% of participants were married, whereas the remaining respondents were identified as divorced (11%), single (8%), or widowed (1%). The average age of the children was 7.8 years (SD 4.2). Sixty-two percent of children were boys. On the basis of the analysis of variance results, none of the determinants of caregiver behaviors differed according to any demographic factors.

Caregiver opinions about children’s menus and eating out with children

The participants tended to think that children’s foods at restaurants were typically high in calories and fat (mean 3.9, SD 0.8) and needed to be more healthful (mean 4.1, SD 0.9). This finding agrees with the comments of Trowbridge that parents want fresher, more healthful, lower-calorie restaurant foods for their children. The frequency of dining out with children each month ranged from 1 to 15 times (mean 3.1, SD 2.2). Participants tended to dine out with children to replace meals at home (mean 4.1, SD 1.2) 3 times per month, on average. The Nutrition and Health Foundation reported that half of parents took children out to eat once per month, whereas around 18% dined out with children every 2 weeks. Participants in this pilot study ate out with children slightly more frequently than those in the aforementioned study. These findings reinforce caregivers’ concern about the quality of children’s menus because restaurant meals replace home meals.

When caregivers selected foods for children at restaurants, 48% considered popularity or favorites, and 31% considered taste as a primary factor. The nutrient that caregivers rated of highest interest on the children’s menu was fat (83.7%), followed by sugar (76.9%), calories (75%), and sodium (73.1%). A few studies have investigated descriptive information about family dining out behaviors. As parents become busy with their own work and restaurant foods become increasingly attractive, they dine out with their children more frequently. Thus, it was
meaningful to measure caregiver dining out behaviors with children and their opinions on children’s menus for future studies.

Determinants of caregiver behaviors toward restaurants providing healthful children’s menus with nutrition information

Overall, participants demonstrated positive attitudes and relatively high PBCs associated with healthy dining out behavior. Table 1 depicts the mean scores for each determinant of caregiver behaviors, with scores for subitems. The mean score of “intentions” showed that participants were willing to dine more frequently at restaurants providing healthful kids’ menus with nutrition information and to recommend such restaurants to others. Also, participants were willing to select (or help a child select) healthful options, and to use nutrition information when ordering foods for a child.

Studies on the ordering behaviors of parents who were exposed to nutrition information on kids’ menus have yielded mixed results. One study showed that parents considered nutrition information and ordered lower-calorie meals for their children in a fast food setting. In another study, however, parents’ nutrition information awareness increased, but they did not order lower-calorie foods for children. Several studies found that food selections for children did not change after nutrition labeling because parents did not consider nutrition information and ordered the same foods as usual; children selected their own foods without parental involvement; or low-income individuals, who are relatively less health conscious, were indifferent about lower-calorie options at fast food restaurants.

Although this pilot study demonstrated strong caregiver intentions to use nutrition information, it cannot be concluded that caregivers would definitely use the nutritional information provided on children’s menus. Nonetheless, it is expected that caregivers who are willing to use nutrition information will have loyalty to restaurants that provide healthful children’s menus with nutrition information.

All reliability coefficients were greater than 0.7, indicating that each variable has acceptable internal reliability. Thus, questions used in this study successfully measured the constructs of interest.

Relationships between TPB variables

Correlation results showed that attitudes, subjective norms, and PBCs had positive relationships with intentions (Table 2). In addition, each component had significantly positive relationships with all other components. The highest correlation was shown between attitudes and intentions, followed by PBCs and intentions. Subjective norms had relatively lower relationships with other components.

Results of multiple regression analysis showed that intentions were regressed on attitudes, subjective norms, and PBCs, and accounted for 65% of the variance, as shown in Table 3 (adjusted $R^2 = 0.654$, $F = 57.17$, $p < .001$). Thus, the TPB conceptual framework could be used to predict caregiver behaviors toward restaurants providing healthful children’s menus with nutrition information. Caregiver intentions to perform the 4 specific behaviors increased with more favorable attitudes, more subjective norms, and higher PBCs. Thus, caregivers were more willing to demonstrate healthy dining behavior and maintain loyalty to the restaurant when they had favorable attitudes toward dining frequently at the restaurant, using nutrition information, selecting or helping children choose healthful options, and recommending the restaurant. Also, when the people around caregivers supported those 4 behaviors and caregivers felt that they had enough power to control those 4 behaviors, they demonstrated stronger intentions to enact the 4 behaviors.

CONCLUSION AND IMPLICATIONS FOR FUTURE RESEARCH

This pilot project has strengths as an initial research study, not only in terms of predicting caregiver behaviors toward
Table 1. Determinants of caregiver behaviors toward restaurants providing healthy children’s menus with nutrition information

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Reliability (Cronbach’s α)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total attitudes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My attitude toward eating at this type of restaurant is</td>
<td>4.24</td>
<td>0.71</td>
<td>0.90</td>
</tr>
<tr>
<td>My attitude toward using menu information on children’s menus is</td>
<td>4.25</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>My attitude toward choosing or helping my child choose healthy options is</td>
<td>4.17</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>My attitude toward recommending this type of restaurant to others is</td>
<td>4.14</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td><strong>Total subjective norms</strong></td>
<td></td>
<td></td>
<td>0.92</td>
</tr>
<tr>
<td>Most people who are important to me think if I am going to eat out, I should eat with my child at this type of restaurant.</td>
<td>3.25</td>
<td>1.01</td>
<td></td>
</tr>
<tr>
<td>Most people who are important to me think I should consider menu information on children’s menus.</td>
<td>3.37</td>
<td>1.04</td>
<td></td>
</tr>
<tr>
<td>Most people who are important to me think I should choose or help my child choose healthful foods for her/him to eat.</td>
<td>3.39</td>
<td>1.11</td>
<td></td>
</tr>
<tr>
<td>Most people who are important to me think I should recommend this type of restaurant to friends with children.</td>
<td>3.24</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total PBCs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I wanted to, I could easily eat with my child at this type of restaurant.</td>
<td>4.17</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>If I wanted to, I could easily use menu information on children’s menus.</td>
<td>4.17</td>
<td>0.68</td>
<td></td>
</tr>
<tr>
<td>If I wanted to, I could easily select or assist my child in selecting healthy menu items for her/him to eat.</td>
<td>4.11</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>If I wanted to, I could easily recommend this type of restaurant to friends.</td>
<td>4.01</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td><strong>Total intentions</strong></td>
<td></td>
<td></td>
<td>0.83</td>
</tr>
<tr>
<td>I would be likely to eat with my child at this type of restaurant more frequently.</td>
<td>4.02</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>I would consider menu information when choosing or helping my child choose food to eat.</td>
<td>4.17</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>I would be likely to select or assist my child in selecting healthful menu items for her/him to eat.</td>
<td>4.03</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>I would recommend this type of restaurant to my friends with children.</td>
<td>3.96</td>
<td>0.84</td>
<td></td>
</tr>
</tbody>
</table>

The possible total score of each variable was 20 (4 items for each variable were multiplied by 5 points scale).

A short scenario described a particular sit-down family restaurant that provides healthy options with nutrition information on its children’s menus.

PBCs, Perceived Behavioral Controls.

Sit-down family restaurants providing healthful children’s menus with nutrition information, but also for applying the TPB to predict caregiver behaviors in restaurant settings. The results of regression analysis showed that caregiver intentions toward restaurants providing nutrition information on healthful children’s menus were predicted by their attitudes, subjective norms, and PBCs. This project did not measure real behavior because the scenario was hypothetical. Future studies need to examine the association...
between intention and behavior. Therefore, the pilot seems to indicate that the TPB might be a useful tool in predicting caregiver behaviors. The results showed that if restaurants provide healthful children’s menus and nutrition information, caregivers might have strong intentions to eat more at this type of restaurant frequently and to recommend it to others. Caregivers also tended to select or help children choose healthful options, and to use nutrition information when ordering foods for children.

The findings of this pilot project are useful for both researchers and restaurant managers, in terms of opening a new research area and providing general caregiver perceptions of children’s menus. On the basis of caregiver demands for healthful children’s menus and their potential loyalty, restaurants may consider providing nutrition information on healthful children’s menus to elicit caregiver loyalty and promote increased sales.

A future study based on this pilot project could be conducted with a different and larger population to substantiate the results found here. This pilot only considered the provision of healthful children’s menus and nutrition information as tools to encourage healthy dining out behavior and loyalty among caregivers. In the future, the authors will investigate other effective intervention components that can change caregiver attitudes, subjective norms, and PBCs, to increase positive caregiver intentions toward restaurants. It would also be meaningful to consider the effects of menu pricing on caregiver behaviors in future studies. For example, researchers need to ask questions related to price sensitivity or to compare intentions to select differently priced healthful foods.

Restaurant managers might consider the positive influences of providing healthful children’s menus with nutrition information on caregiver behavior. Studies might show that restaurant managers who provide healthful children’s menus and nutrition information benefit from increased sales, caregiver loyalty, and strong intentions to order healthful foods. On the basis of these predictive benefits, restaurant managers may develop more healthful menus for children.

Finally, increasing the availability of healthful children’s menus and nutrition information could empower caregivers at restaurants. Caregivers could consider nutrition information when selecting healthful foods for children, and children would have more opportunities to consume these healthful foods. These positive changes may have an impact on children’s diets and help prevent obesity.

REFERENCES


33. Freedman MR. Point-of-selection nutrition information influences choice of portion size in an
Appendix B

Experimental stimuli
(1) Menu A: Healthful children’s foods "O", Nutrition information "O"

Kid’s Menu  $ 6.00

Kid’s menu price is fixed at $6, including beverages. Please select one beverage from below options.

1% milk (Calorie: 110, Total fat: 7.5g, Calories from fat: 20 (18% of total calorie), Sodium: 130mg)
2% milk (Calorie: 130, Total fat: 8g, Calories from fat: 51 (34% of total calorie), Sodium: 140mg)
Apple juice (Calorie: 100, Total fat: 0g, Calories from fat: 0 (0% of total calorie), Sodium: 15mg)

Grilled chicken, Steamed Broccoli
Juicy grilled chicken breast served on a mini bun with steamed broccoli.
Calorie: 250, Total fat: 5.5g, Calories from fat: 50 (20% of total calorie), Sodium: 580mg

Mini Cheese Burger
Junior beef patty topped with American cheese.
Calorie: 740, Total fat: 46g, Calories from fat: 414 (56% of total calorie), Sodium: 1,130mg

Jr Roast Beef Sandwich, Apple Slices, Yogurt Dip
Thinly sliced, oven roasted beef served on a toasted sesame seed bun
Calorie: 270, Total fat: 6.5g, Calories from fat: 60 (22% of total calorie), Sodium: 520mg

Chicken Fingers
Crispy breaded chicken fingers
Calorie: 620, Total fat: 33g, Calories from fat: 297 (48% of total calorie), Sodium: 1,160mg

Pasta Marinara with Fruit Medley
Spaghetti with marinara sauce, fruit medley.
Calorie: 370, Total fat: 6.5g, Calories from fat: 50 (14% of total calorie), Sodium: 310mg

Macaroni & Cheese
Creamy macaroni and cheese. Made with lots of goeeey cheese and noodles.
Calorie: 680, Total fat: 37g, Calories from fat: 306 (45% of total calorie), Sodium: 1,565mg

Fish Tacos, Salsa, Baked tortilla chips
Fish fillets seasoned with chicken bouillon, cumin, and garlic powder.
Calorie: 192, Total fat: 6.4g, Calories from fat: 57 (30% of total calorie), Sodium: 364mg
Menu B: Healthful children’s foods "O", Nutrition information "X"

**Kid’s Menu**

Kid’s menu price is fixed at $6, including beverages. Please select one beverage from below options.

- 1% milk
- 2% milk
- Apple juice

**Grilled chicken, Steamed Broccoli**
Juicy grilled chicken breast served on a mini bun with steamed broccoli.

**Mini Cheese Burger**
Junior beef patty topped with American cheese.

**Jr Roast Beef Sandwich, Apple Slices, Yogurt Dip**
Thinly sliced, oven roasted beef served on a toasted sesame seed bun

**Chicken Fingers**
Crispy breaded chicken fingers

**Pasta Marinara with Fruit Medley**
Spaghetti with marinara sauce, fruit medley.

**Macaroni & Cheese**
Creamy macaroni and cheese. Made with lots of gooey cheese and noodles.

**Fish Tacos, Salsa, Baked tortilla chips**
Fish fillets seasoned with chicken bouillon, cumin, and garlic powder.
(3) Menu C: Healthful children's foods "X", Nutrition information "O"
Kid’s Menu

Kid’s menu price is fixed at $6, including choice of beverages. Please select one beverage from below options. You can have French fries as a side item at $1.

Soda
Chocolate milk
Slush Lemonade
French fries

Macaroni & Cheese
Creamy macaroni and cheese. Made with lots of gooey cheese and noodles.

Chicken Fingers
Crispy breaded chicken fingers

Mini Cheeseburger
Covered in creamy Alfredo sauce and topped with cheeses.

Cheese Pizza
Covered in creamy Alfredo sauce and topped with cheeses.

Chop Steak
A patty of ground cooked beef.
Appendix C

Questionnaire
**Title of Project:** Parent's evaluations of restaurants based on children’s foods

**Principal Investigator:** Kiwon Lee, Graduate Student  
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607-342-8434; kzl138@psu.edu

**Advisor:** Dr. Martha Conklin  
213 Mateer Building  
University Park, PA16802  
814-863-4847; mtc11@psu.edu

1. **Purpose of the Study:** The purpose of this research is to examine parent’s perceptions of restaurants, especially menu purchase and restaurant select intentions, based on children’s menu items and to investigate the procedure of developing the perceptions.

2. **Procedures to be followed:** You will be asked to answer 35 questions on a survey.

3. **Duration/Time:** It will take about 10 minutes to complete the survey.

4. **Statement of Confidentiality:** Your participation in this research is confidential. The survey does not ask for any information that would identify who the responses belong to. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.

5. **Right to Ask Questions:** Please contact Kiwon Lee at 607-342-8434 or kzl138@psu.edu with questions or concerns about this study.

6. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

You must be 18 years of age or older to take part in this research study.

Completion and return of the survey implies that you have read the information in this form and consent to take part in the research. Please keep this form for your records or future reference.
1. How many children under your care in your household are 2-15 years old?

________________________

2. Please select only one (1) child to answer the following questions about eating out. Please list age and gender of the child whom you selected.

Age __________________________
Gender _________________________

3. How often do you eat in a sit-down family restaurant (not fast food) with your child during an average month?

________________________

4. How much influence do you have on food selection for your child at restaurants?
   1. Very little
   2. 
   3. 
   4. 
   5. A lot
Please assume that you decide on eating out with your child for lunch or dinner. No special events are involved (e.g., birthday party or pay day) around today-just a time to get a good meal. Someone let you know that Restaurant A, a sit-down family restaurant, has a good reputation for service, environment, reasonable price for a set of children's menus, and overall good quality for children's foods as well.

Please take a look at thoroughly following food items offered on children's menu, choose items for your child, and answer your opinions for Restaurant A.

5. I read above of a dining out situation.
   ○ Yes.
Kid’s Menu

Kid’s menu price is fixed at $6, including beverages. Please select one beverage from below options.

1% milk (Calorie: 110, Total fat: 2.5g, Calories from fat: 20 (18% of total calorie), Sodium: 130mg)
2% milk (Calorie: 150, Total fat: 6g, Calories from fat: 51 (34% of total calorie), Sodium: 140mg)
Apple juice (Calorie: 100, Total fat: 0g, Calories from fat: 0 (0% of total calorie), Sodium: 15mg)

Grilled chicken, Steamed Broccoli
Juicy grilled chicken breast served on a mini bun with steamed broccoli.
Calorie: 250, Total fat: 5.5g, Calories from fat: 50 (20% of total calorie), Sodium: 580mg

Mini Cheese Burger
Junior beef patty topped with American cheese.
Calorie: 740, Total fat: 46g, Calories from fat: 414 (56% of total calorie), Sodium: 1,130mg

Jr Roast Beef Sandwich, Apple Slices, Yogurt Dip
Thinly sliced, oven roasted beef served on a toasted sesame seed bun
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Calorie: 370, Total fat: 6.5g, Calories from fat: 50 (14% of total calorie), Sodium: 310mg

Macaroni & Cheese
Creamy macaroni and cheese. Made with lots of gooey cheese and noodles.
Calorie: 680, Total fat: 37g, Calories from fat: 306 (45% of total calorie), Sodium: 1,565mg

Fish Tacos, Salsa, Baked tortilla chips
Fish fillets seasoned with chicken bouillon, cumin, and garlic powder.
Calorie: 192, Total fat: 6.4g, Calorie from fat: 57 (30% of total calorie), Sodium: 364mg
6. Please select one beverage and one main dish for your child and list those items below. If you don't find any items that you want your child to have, please write N/A.

Beverage __________________________
Food item __________________________

7. Please write down the reason why you selected the above food and beverage items for your child or why you did not select any.

________________________

8. We would like to know your opinions on this restaurant and menu items.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe that this restaurant is considering children’s health.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I have control over selecting menu items for my child at this restaurant.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I would prefer eating at this restaurant with my child than at other restaurants.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I feel empowered to select suitable menu items for my child in this restaurant.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that this restaurant acts responsibly against childhood obesity issues.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I feel empowered to select a restaurant to eat out with my child.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I would eat at this restaurant with my child.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that this restaurant has a sense of responsibility to children’s health.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I would select this restaurant to have a meal with my child.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>I believe that this restaurant is socially responsible.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>This restaurant would be my first choice for eating out with my child.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
9. Do you think that

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurant A provides healthful children’s foods in addition to conventional foods?</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Restaurant A provides nutrition information such as Calories or Total fat on children’s menus?</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

10. We would like to know about your concerns for children’s eating.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Seldom</th>
<th>Half of the time</th>
<th>Most of the time</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>When your child is at home, how often do you feel responsible for arranging meals for her/him?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you feel responsible for deciding how much she/he eats?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you feel responsible for deciding if your child has eaten the right kind of foods?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Concerns for children’s eating

<table>
<thead>
<tr>
<th></th>
<th>Unconcerned</th>
<th>A little concerned</th>
<th>Concerned</th>
<th>Fairly concerned</th>
<th>Very concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>How concerned are you about your child eating too much when you are not around her/him?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How concerned are you about your child choosing the type and amount of food to maintain a desirable weight?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How concerned are you about your child becoming overweight?</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Concerns for children’s eating

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Neutral</th>
<th>Slightly agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have to be sure that my child does not eat too many sweets (candy, ice cream, cake or pastries).</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have to be sure that my child does not eat too many high-fat foods.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I did not guide my child's eating, she/he would eat too much of her/his favorite foods.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. At what child’s age would you allow your child to make a decision what to eat at restaurants?

________________________

14. My gender is:  
   a. Male   b. Female

15. My highest level of education is:  
   a. Less than high school  
   b. High school  
   c. Associate degree  
   d. Baccalaureate degree  
   e. Graduate degree

16. My age is  
   a. 18-24  
   b. 25-34  
   c. 35-44  
   d. 45-54  
   e. 55-64

17. My marital status is  
   a. Single  
   b. Married  
   c. Divorced  
   d. Widowed

18. My occupational status is  
   a. Employed full time  
   b. Employed part time  
   c. Not currently employed

19. My family role is  
   a. Parent  
   b. Grandparent  
   c. Caregiver  
   d. Other
Appendix D

Normal probability plots of regression models
(1) Dependent variable: Willingness to select restaurants

- Skewness: -0.210 (S.E.: 0.164)
- Kurtosis: -0.836 (S.E.: 0.326)
(2) Independent variable: Consumer empowerment

- Skewness: -0.090 (S.E.: 0.164)
- Kurtosis: -0.219 (S.E.: 0.326)
(3) Independent variable: Perceived corporate social responsibility

- Skewness: -0.085 (S.E.: 0.164)
- Kurtosis: -0.949 (S.E.: 0.326)
VITA
Kiwon Lee

Education

- Pennsylvania State University, University Park, Pennsylvania
  Ph.D. in Hospitality Management, 2009-present (Expected Graduation: August, 2013)
- Seoul National University, Seoul, Korea
  Master’s degree in Food and Nutrition, 2008
- Chungnam National University, Daejeon, Korea
  Bachelor’s degree in Food and Nutrition, 2003

Work Experience

- Assistant manager, Café Fanco, Seoul National University, 2008
- Dietitian, Hyundai Green Food, 2002-2006
- Intern at Bakery, Dabit Bakery, Chungnam National University, 2000-2002

Teaching Experience

- Introduction to Food Production and Service, Pennsylvania State University, Fall 2012, Spring, 2013

Future Position

Kiwon Lee will start her academic career at University of Tennessee, Knoxville, where she has accepted an Assistant Professor position in the Department of Retail, Hospitality, and Tourism Management.