CONSUMER SEARCH FOR NUTRITION INFORMATION WHEN EATING IN RESTAURANTS

REBECCA HOCHRADEL, ***Transylvania University***
ZINAIDA TARAN, ***Delta State University***

With the average consumer eating in restaurants more than four times per week, and the need to combat the increase in obesity, heart disease, and diabetes, consumers need to choose healthier foods when eating out. Healthy choices require nutrition information to be provided and framed in a manner that is understandable to consumers. This study investigates the consumer characteristics, such as health consciousness, preventive health behaviors, perceived nutrition knowledge, self-efficacy, and body image and the impact these characteristics have on the desire for nutrition information. Also investigated is the preferred framing of this nutrition information when eating out. The results of this study indicate consumers desire expanded nutrition information, although they do not necessarily prefer to select the healthiest food. Compared to the other consumer characteristics, body image was the only consumer characteristic that had limited impact on the desire for nutrition information and the framing of this nutrition information.

INTRODUCTION

Americans are inundated with news reports about the increase in obesity, heart disease, and diabetes. Many consumers take the grim news to heart and attempt to eat healthier diets or those foods that the consumers believe contribute positively toward their health (Conway, 2018). More than 71% of consumers believe they could eat healthier and 44% of consumers consider the ingredients in the foods and beverages they consume (Conway, 2018). Consumers' diets, and studies assessing those diets, must include not only the food consumed at home, but also the food consumed in restaurants. Eating in restaurants is big business; the average consumer eats in restaurants 4.2 times per week (Hamm, 2020). For example, individual consumers in the United States aged 45-54, spent an average of $4,157 per year eating out (Lock, 2019). Considering the amount of food that is consumed at restaurants, consumers need to know and understand the nutritional value of all food consumed, including at a restaurant.

For many years, research on healthy eating and the provision of nutrition information focused on food purchased for home consumption (see, for example, Klopp & McDonald, 1981, Putnam, 1993, Buda & Zhang, 2000, and Chien -Huang, Hung-Chou, & Sheng-Hsien, 2011). Eating nutritious foods and sales of these food products are estimated to reach $811.82 billion by 2021 (Shahbandeh, 2019). Although food manufacturers have been required to provide nutrition information on their products for decades in order to communicate with, and inform consumers about the product's nutrition information, only recently has nutrition information become readily available for food items ordered in restaurants. National regulations were included with the passage of the Affordable Care Act in 2014 and were implemented in 2018 (see VanEpps, Roberto, Part, Economos, & Bleich, 2017, and Food and Drug Administration, 2020). This legislation states that restaurants and similar food establishments with 20 or more locations must disclose the number of calories of the menu item. Information regarding specific nutrients, such as total fat, saturated fat, trans fat, cholesterol, sodium, total carbohydrates, sugars, fiber, and protein must be made available upon request. Additional information that must be included, similar to the information that is displayed on the Nutrition Facts panel on food purchased for home consumption, includes:

1) a written indication that the information is available upon request, and
2) that for general nutrition advice, 2,000 calories a day is used, but individual calorie needs may vary, are to be displayed (Food and Drug Administration, 2020).

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Since the proposal and implementation of legislation requiring that nutrition information be made available to consumers at restaurants, research has studied the need for (and the use of) nutrition information at restaurants. Research regarding nutrition labeling on menus includes impact on consumer purchase intentions, healthiness of a menu item, and use of the nutrition information on food selection (see Auchincloss, Giridhar, Leonberg, Ricchezza, Glanz & Schwarz, 2013, Burton & Creyer 2004, and Burton, Tangari, Howlett, & Turri, 2014). Additional prior research investigates the impact of restaurant nutrition labeling on healthy eating behaviors (Roseman, Joung, Choi, & Kim, 2017) and the use of nutrition information at restaurants between locations where the consumers had to request the information and locations where the nutrition information was found on the menu (Vanderlee, White, & Hammond, 2019).

Also, the potential impediments to restaurant menu labeling initiatives (Burton & Kees, 2012) and the impact of consumers' view of restaurants when nutrition information is provided (Berry, Burton, & Howlett, 2018) have been investigated. Research focusing on the impact of nutrition labeling in restaurants on menu selection and findings regarding the choice of eating healthier has produced mixed results (see Auchincloss et. al., 2013; Droms Hatch, 2016).

Research investigating the consumer characteristics and the framing of the nutrition message on menu item selection has been modest. This limited research has investigated the framing of the nutrition messages based on health consciousness, nutrition information on the menu, and purchase intentions (Dipietro, Remar, & Parsa, 2016); health consciousness and understanding the experiential and behavioral effects and how these effects will impact the restaurant via repatronage and positive word of mouth (Jin, Line, & Lee, 2017); the role of self-efficacy on the impact of message framing (Van' t Riet Werrij, Nieuwkamp, de Vries, & Ruiter, 2013); and self -efficacy and the level of consumption of fast food (Akindutire & Konwea, 2013). Although McGeown (2019) suggested the provision of calorie information at restaurants may negatively impact eating disorders, neither the use of nutrition information based on body image nor preventive health behaviors have been investigated when eating at restaurants. Thus, the focus of this study is to investigate the following research questions:

1. Do the consumer characteristics impact the use of nutrition information on menu selection when eating in restaurants?
2. Do the consumer characteristics impact the preference for the framing of the nutrition information on restaurant menus?

In seeking the answers to these questions, this research indicates both theoretical and practical insight into determining which consumer characteristics impact the use of the nutrition information. This paper proposes a model to investigate whether these consumer characteristics impact the use of nutrition information and the preference for the type of framing for this nutrition information. This research adds to the literature by looking at the consumers themselves and how these characteristics impact the use of the information and menu selection.

THEORETICAL BACKGROUND

Marketers have long been interested in predicting consumer behavior. The theory of planned behavior (TPB) explains the concept that behavior intention leads to the actual behavior (Fishbein & Ajzen,1975; Ajzen, 1991). According to these authors, the behavior intention, or motive to adopt a particular behavior, is formed by the consumers' attitude toward the behavior, subjective norms, and perceived behavioral controls. Since TPB was proposed, it has generated more than 60,000 citations; it is considered one of the most widely used theories in research (Tornikoski & Maalaoui, 2019), including its successful application to nutrition choices (Sweitzer, Briley, Roberts-Gray, Hoelscher, Harrist, Staskel, & Almansour, 2011).

The two main criticisms of TPB are 1) it may not be sufficient or fully explain consumer intention and actions, and 2) it may not consider habitual behavior. In response to these criticisms, Ajzen (2011) states that TPB allows for predictors to be added, as long as they are behavior-specific and habitual behavior may be

considered a background factor in the formation of the attitude or intention, but past behavior does not always lead to the same decision.

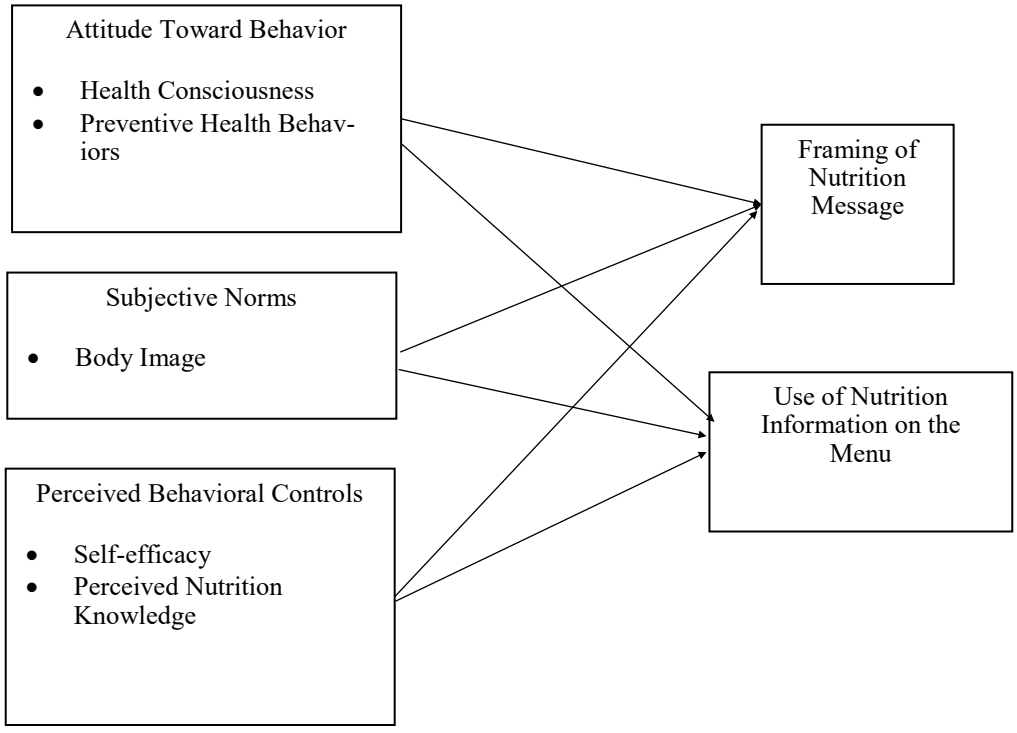
This paper is using behavior-specific measures of attitudes toward the behavior, subjective norms, and perceived behavior control, as shown in Figure 1, and the framing of the nutrition message to lead to the use of nutrition information when eating out. Regarding the first criticism of TPB, this paper does not claim these measures fully explain the intention to use nutrition information when eating out; however, is a useful starting point for this exploratory study. Further research will clarify and extend the model. Regarding the second criticism of TPB, habitual behaviors are beyond the scope of this paper.

Attitude Toward the Behavior

Attitude toward the behavior is developed by the consumer's beliefs and values that a particular behavior will produce certain outcomes. An attitude is a summary evaluation that is stored in a person's memory. Stored evaluations are used to guide behavior in response to a stimulus (Cohen & Reed, 2006); thus, stored attitudes are used to trigger a response to a decision-making opportunity. One question is simply: what reasons create the attitude the consumer uses in order to determine what item to select on the menu when eating in restaurants?

Consumers in general use some nutritional information on the menu and may alter their choices based on that information when eating out (Auchincloss, et. al., 2013). Literature suggests several attitudinal and behavioral characteristics specific to the domain of making health-related life choices related to food in general and eating out in particular (Sweitzer, et. al., 2011). Although the constructs of health consciousness and preventive health behaviors may overlap, they measure two different ideas. Health consciousness is the consumers' general attitude toward health and preventive health behaviors are the consumers' behavioral intention toward health. Reflected in Figure 1, health consciousness and health preventive behaviors are cited within the framework of TPB (Sweitzer, et. al., 2011). Therefore, this study seeks to investigate whether a person's

FIGURE 1:
Conceptual Model



health consciousness or engagement in health preventive behaviors create one's attitude toward the behavior in the context of the reasoning used by the customer to use the nutrition information for the selection of a particular food item when eating in restaurants.

Health consciousness is defined as the awareness one has toward health concerns and the degree to which these concerns are incorporated into the consumer's daily activities (Jayanti & Burns, 1998). Kraft and Goodell (1993) note that health-conscious consumers engage in a 'wellness-oriented' lifestyle, which includes a set of personal activities, interests, and opinions related to one's health (p. 18). These authors note that health conscious consumers integrate behaviors, such as eating healthy foods, both at home and in restaurants, and exercising regularly, incorporating preventive health behaviors, or actions people do in order to enhance or maintain health, in order to improve or maintain their quality of life. Therefore, these consumers are proactive and engage in preventive health behaviors, rather than relying on medications to correct the negative consequences of their behavior. Thus, health-conscious consumers indicate an attitude toward health, while engagement in health behaviors indicates an action toward health. Consumers engaging in health prevention measures believe their actions impact their health status and by engaging in healthful behaviors, their status of health will be at its optimal level (Kraft & Goodell, 1993).

These measures indicate the attitude consumers have toward obtaining or retaining a positive health status, and thus, forming the behavior toward the intention to eat healthy, as the presence of health consciousness and engagement in health prevention measures can be considered overt acts of concrete goals (Kraft & Goodell, 1993; Jayanti & Burns, 1998). As a consequence of this high level of health consciousness, these consumers are more likely to engage in general preventive health care measures, including the desire to select a healthier menu item when eating in restaurants. Consumers who are health conscious and engage in health prevention measures desire to arrive at the correct solution (Kraft & Goodell, 1993). In addition, since these consumers want to select the correct food, or the food that is most likely to help them achieve the goal of being healthy, they will use the nutrition information on the menu to select healthier foods.

H_{1a}: Consumers with higher levels of health consciousness are more likely to use nutrition information on the menu.

H_{1b}: Consumers who engage in health prevention measures are more likely to use nutrition information on the menu.

Subjective Norms

The second component of the theory of planned behavior is subjective norms. Subjective norms, according to Fishbein and Ajzen (1975), are the consumer's perception regarding how others think the consumer should behave, the social situation surrounding the behavior, and how this impacts one's behavior. Theorists have often believed that behavior is motivated and driven by emotions (Passyn & Sujan, 2006). Emotions lead to actions and attainment of goals.

Prior research regarding emotions and food consumption includes investigating one's thoughts and feelings before and after consumption. With regard to food consumption, women have been found to be more concerned with physical appearance, weight and dieting, and restrained eating behavior (see Spangenberg & Sprott, 2006). Subjective norms include how others think they should behave. Although not all consumers are influenced by others the same way or to the same degree, research has shown that a person who is susceptible to a particular influence under one condition will likely be susceptible to influence under other conditions (see Bearden, Netemeyer, & Teel, 1989). When investigating food choice behavior, Thompson, Haziris, and Alekos (1994) found that beliefs about the outcome and the likelihood that the choice resulted in the given outcome determined the consumer's attitude, which in turn determined the behavior. Body image is considered a subjective norm, as this construct includes emotions, perceptions, and cognition as it pertains to appearance, body shape and size (Cash & Fleming, 2002). Prior research

indicates that social situations influence eating behavior with regard to body image, and can be considered subjective norms (see Barroso, Peters, Johnson, Kelder & Jefferson, 2010; Higgs & Thomas, 2016; Mostafavi-Darani, Daniali, & Azadbakht, 2013). Therefore, this study investigates body image as a subjective norm and influences the use of nutrition information on the menu.

In this study, body image is how one views oneself, and the emotions attached to this viewpoint as body image can be positive or negative. Studies have shown links between body image and health and the emotions that one's body image manifested via their behaviors (Mostafavi-Darani et. al., 2013). Body image, according to the Merriam-Webster medical definition is a "subjective picture of one's own physical appearance established both by self-observation and by noting the reactions of others" (Merriam Webster, n.d.). Body image is a complex topic, including the assessment (cognitive) aspect and the feelings (emotional) aspects of the body. Body image describes how people evaluate their appearance, as well as the impact on psychosocial functioning of their body (Cash & Fleming, 2002; Cash, Theriault & Aniss, 2004). Consumers' body images shape their view of self, influencing attitudes, life activities, and relations with others (Bak-Sosnowska & Urban, 2017).

Most research regarding body image has been focused on body image disturbances, or those negative body images that create mental health problems (Scheffers, van Duijn, Bosscher, Wiersma, Schoevers & van Busschbach, 2017). When connected to eating behavior, the research of body image has focused on negative body images, such as disease states (McClelland, Holland & Griggs, 2015), obesity (Gouvela, Frontini, Canavarro & Moreira, 2014), and eating disorders (Chaudhari, Tewari, Banka, Kumar & Saldanha, 2017). However, there have been no studies investigating the attitude a person has toward their body image and the impact of positive body image on use of nutrition information on menu selection when eating in restaurants.

Thus, the following hypothesis is posited:

H_2: Consumers with positive body image are more likely to use nutrition information on the menu.

Perceived Behavioral Control

The third component of the TPB is perceived behavioral control. Perceived behavioral control, according to Ajzen (1991), is the consumer's perception regarding the ease or difficulty the consumer has of performing the behavior due to uncertainty, context, and information biases. The strength of the perceived behavior control then influences the consumer's intention to perform a particular behavior. Ajzen (1991) concludes that consumers are more likely to perform the desired behavior when they perceive that they have the necessary resources, knowledge, and opportunities in order to perform the behavior. Resources that the consumer draws from are those internal resources that determine whether or not the consumer believes he or she can make the decision, how important it is for the consumer to make the 'right' decision, the consumer's belief about the riskiness of making the 'wrong' decision, and how the consumer makes a decision in general. Self-efficacy, according to Ajzen (1991) is identical to perceived behavioral control and will be used as a measure for this construct in the current study. Fila and Smith (2006) found, as a measure of perceived behavioral control, nutrition knowledge, or how much one knows about nutrition, was correlated to the intention to eat healthy and to overcoming the barriers to eating healthy. Aboulnasr (2013) found that consumers' food choices and consumption were improved when nutrition labels were read and used. Thus, this study will also use perceived nutrition knowledge, or how much one believes they know about nutrition, to measure this construct.

Self-efficacy is defined as people's judgments of their own competence to complete a specific task (Peterson & Arnn, 2005, p. 7). Self-efficacy differs from self-confidence and self-esteem causing the 'can do' belief to thoroughly impact the person's thoughts, motivation, and actions. Self-efficacy is the basis of one's ability to bring about control and to produce the desired results, thus impacting

the goals people set for themselves, in that the goals are perceived to be attainable and brings about the actions required to meet these goals (Bandura, 1986).

Self-efficacy has been studied relating to several variables, including gender, computer technology use, career selection, substance abuse, sports anxiety, and staff development (Peterson & Arnn, 2005). However, self-efficacy has not been studied when determining the use of nutrition information when eating in restaurants. Since self-efficacy in and of itself cannot determine eating behavior, as everyone eats and everyone believes they are capable of selecting food and eating, in this context, self-efficacy must be regarded in the belief that one can 'stick with a healthy diet' and can choose healthy foods when eating out.

Increased information increases knowledge and knowledge is power. Yet people often eat what they know, what they are used to eating, or what they like to eat, but do not always know the nutritional evaluation of what they are eating. Prior research found that consumers who read labels believe they have an excellent or good knowledge of nutrition (Shine, O'Reilly & Sullivan, 1997) and the use of nutrition labels was positively related to increased levels of knowledge (see Szykman, Bloom & Levy, 1997; Burton, Garretson, & Velliquette, 1999). Burton and Creyer (2004) found that nutrient value estimates, disease risk perceptions, source credibility judgments, attitudes, and purchase intentions are affected by the provision of nutrition information, the presence of a health claim, and the nutrition frame or context in which the menu item is presented. Research has also investigated nutrition knowledge and the use of nutritional food labels (see Drichoutis, Lazaridis, & Nayga, 2006). Thus, consumer's perception of their nutrition knowledge and consumer's self-efficacy should have an effect on consumer's use of nutrition information when eating in restaurants. Therefore, the following hypotheses are posited:

H_{3a}: Consumers with higher levels of perceived nutrition knowledge are more likely to use nutrition information on the menu.

H_{3b}: Consumers with higher levels of self-efficacy are more likely to use nutrition information on the menu.

Framing of the Nutrition Message

The preference for the framing of the nutrition message, or how the consumer wants to receive the message, may also sway the consumers' use of the nutrition information on the menu. Prior research has found that greater awareness regarding the benefits of good nutrition results in healthier eating habits of Americans (Putnam, 1993). Since calories are the only nutrition requirement to be on the menu, this study seeks to determine if there are other ways to frame this message to benefit consumers.

When investigating the framing of the nutrition message, results have been mixed. For example, Droms Hatch (2016) found that few consumers used the available nutrition information, yet the preference for selecting menu items was for taste rather than nutrition quality, while Auchincloss, et. al. (2013) found that the use of nutrition information resulted in a decrease in calories, sodium, and saturated fat consumption. These researchers, however, neither investigated consumer characteristics in conjunction with the use of the nutrition information, nor the framing of the nutrition information.

Do consumers want calorie-only information? Research findings focusing on Millennials indicate that while product images on a restaurant menu have a negative influence on selection, calorie information alone has mixed results (Gala, Rippé, Dubinsky, & Favia, 2018). However, this research did not measure the consumer's nutrition knowledge, so the impact of knowledge regarding framing preferences was not investigated. This current study seeks to investigate if the consumer's nutrition knowledge impacts the preference for framing of the information. A consumer with a greater amount of nutrition knowledge, health consciousness, and higher engagement in health prevention measures would know what the information entails (see Kraft & Goodell, 1993; Jayanti & Burns, 1998). Thus, the more knowledgeable the consumer, it is supposed the more specific the information desired. This research proposes that these consumers are

more likely to prefer calorie-only information and the following hypotheses are suggested:

H_{4a}: Consumers with higher levels of health consciousness are more likely to prefer calorie-only nutrition information.

H_{4b}: Consumers who engage in health prevention measures are more likely to prefer calorie-only nutrition information.

H_{4c}: Consumers with higher levels of perceived nutrition knowledge are more likely to prefer calorie-only nutrition information.

Calories are considered specific information, yet there may be additional nutrition information consumers might prefer when using nutrition information on menus. An extension of the calorie-only nutrition information, or a second type of framing, would include expanded nutrient information. Since, attitude toward the behavior measures could be considered overt acts of concrete goals, a consequence of a high level of health consciousness, engagement in health prevention behaviors is the consumer's desire to arrive at the correct solution by selecting the correct food, or the food that that is most likely to help them achieve the goal of being healthy (Kraft & Goodell, 1993; Jayanti & Burns, 1998). Consumers with higher levels of perceived nutrition knowledge may prefer additional nutrition information, as it may provide a more complete understanding of the nutritional value of the food, versus calorie-only information. Thus, these consumers will desire the inclusion of nutrition information to be framed specifically and include not only calorie information, but also additional nutrient information, including specific amounts of fats, protein, carbohydrates, sugars, and vitamins and minerals, to name a few. This research explores whether consumers with higher levels of health consciousness, engagement in preventive health behaviors, and perceived nutrition knowledge prefer this nutrition message framing. Therefore, the following hypotheses are suggested:

H_{4d}: Consumers with higher levels of health consciousness are more likely to prefer expanded nutrition information.

H_{4e}: Consumers who engage in health prevention measures are more likely to prefer expanded nutrition information.

H_{4f}: Consumers with higher levels of perceived nutrition knowledge are more likely to prefer expanded nutrition information.

A third type of framing is expressive information, such as the terms light or lean, which may be used in descriptors of the menu item (also referred to as menu expressive). Research found that consumers had a more positive perception of meat labeled 75% lean as compared to meat labeled 25% fat (see Donovan & Jalleh, 1999; Levin & Gaeth, 1988). Balasubramanian and Cole (2002) found consumers are more likely to look for recognizable words, such as light, healthy, reduced, and lean, rather than specific nutrient information, such as fat, fiber, or cholesterol. Van 't Riet et. al. (2013) found that for those high in self-efficacy, gain-framed messages, such as stressing the benefits of engaging healthy behaviors, resulted in positive attitudes toward healthy eating. These messages are more expressive and consumers may perceive these terms as more understandable. Thus, this study proposes that consumers high in self-efficacy will prefer expressive terms. Consumers with high body image evaluate their appearance, which influences activities such as food selection. These consumers process this information cognitively and use terms that are understandable (Bak-Sosnowska & Urban, 2017; Cash, Theriault & Aniss, 2004; Cash & Fleming, 2002, and Cash, Theriault & Aniss, 2004). Based on this prior research, this study suggests that:

H_{4g}: Consumers with higher levels of self-efficacy are more likely to prefer expressive nutrition information on the menu.

H_{4h}: Consumers with higher levels of body image are more likely to prefer expressive nutrition information on the menu.

METHODOLOGY

A sample was administered by SurveyMonkey via an online survey. The target population was adult residents of the United States.

SurveyMonkey Audience Service contacted and recruited respondents from their panels (SurveyMonkey, 2020a), who are typically joining the panels for charity, sweepstakes, or credits redeemable for gift certificates (SurveyMonkey, 2020b). They are demographically diverse and, according to SurveyMonkey, are highly likely to provide reliable responses (SurveyMonkey, 2020a). A total of 613 consumers accessed the link to the survey, of which 17 refused to take the study (responded with a 'no' to the consent question) and 42 opted-out before completing the survey, resulting in 554 usable surveys, or a 90.4% completion rate. Since it is unknown how many total consumers were contacted by the SurveyMonkey Audience Service, the response rate cannot be determined.

To determine the consumer's level of health consciousness (Jayanti & Burns, 1998), engagement in health prevention measures (Kraft & Goodell, 1993), perceived nutrition knowledge (Moorman & Matulich, 1993), self-efficacy modified for health care issues (Jayanti & Burns, 1998), and BodyQ, a scale of attitude toward body image (Cash & Fleming, 2002) and other previously validated scales were used. Each measure used summative scales as developed by the original authors. When needed, slight wording modifications were made to adapt the scale to the current context of eating out. Health consciousness, perceived nutrition knowledge, self-efficacy, and body image used a four-point Likert scale anchored by strongly disagree (1) to strongly agree (4). Preventive health behavior used a three-point Likert scaled anchored by never (1) to always (3). The scales' items and their loadings, along with the summary of the scales, number of items, and Cronbach's alpha, are found in Table 1.

Consumers were asked how strongly they preferred different types of framing messages on the menu, including expanded information, expressive information, and calories and the use of nutrition information. These questions utilized the four-point Likert scale anchored by strongly disagree (1) to strongly agree (4). The survey also asked generally used demographic characteristics, such as gender, age, education level, income level, and nationality. About 50% of the sample identified as female, about 74% identified as white, about half reported income less than $50K US a year, and about half reported less than about 40 years of age. See Table 2 for a complete itemization of the demographic categories.

Summative scores were then obtained for each scale following the original design by their respective authors. These summative scores were used when conducting the correlation analysis. The median values for each scale were determined and are found in Table 1. A median split was performed on each of the scale scores, whereby consumers were placed in either a high category or low category for each of the scales. Independent sample t-tests were performed to test the hypotheses to determine the group differences using the median splits.

RESULTS

The correlations between health consciousness, self-efficacy, preventative health behaviors and perceived nutrition knowledge, the preferences for expanded nutrition information, expressive nutrition information, and the number of calories have moderate to strong correlation values of .117 to .741 ($p \leq .001$ for all). Such correlations are rather expected, since all constructs center around health-related attitudes and behaviors and it follows that the preferences for expanded nutrition information, expressive nutrition information, and calorie information are correlated.

The results of the t-tests for the hypotheses, along with the information on the means and standard deviation in each subgroup, are found in Table 4. As seen in Table 4, the t-tests are significant for every hypothesis except for those hypotheses regarding body image. The data neither supported the hypothesis that consumers with positive body image are more likely to use nutrition information on the menu (H_2) nor the hypothesis that they prefer expressing information on the menu (H_{4h}). Although significant, the correlation between body image and health consciousness is very small (.092, $p = .030$). However, analysis of body image and the attempt to exercise was found to be correlated (.345, $p = .000$), Thus, these consumers may be focusing on exercise rather than nutrition.

TABLE 1:
Summary of Scales

Scale	Number of items	Cronbach's alpha	Factor Loadings	Median
Health Consciousness (Kraft & Goodell, 1993)	**5**	**0.75**		**3.00**
I am concerned about my drinking water quality.			0.545	
I usually read ingredients on food labels.			0.667	
I read more health-related literature than I did 3 years ago.			0.718	
I am interested in information about my health.			0.796	
I am concerned about my health all the time.			0.730	
Preventive Health Behaviors (Jayanti & Burns, 1998)	**11**	**0.81**		**2.18**
Eat a well-balanced diet			0.639	
See your dentist for regular checkups			0.364	
Eat fresh fruits and vegetable			0.511	
Reduce amount of salt in your diet			0.588	
Watch the amount of fat you consume			0.711	
Pay attention to your sugar intake			0.704	
Pay attention to the amount of red meat you eat			0.699	
Cut back on snacks and treats			0.646	
Avoid food with additive and preservatives			0.707	
Get enough rest and sleep			0.439	
Reduce stress and anxiety			0.398	
Perceived Nutrition Knowledge (Moorman & Matulich, 1993)	**2**	**0.87**		**3.00**
The more I learn about nutrition, the harder it seems to choose (Reversed)			0.710	
I know a lot about nutrition			0.710	
Self-efficacy (Jayanti & Burns, 1998)	**4**	**0.72**		**3.00**
I usually make an attempt to eat a well-balanced diet			0.824	
I usually make an attempt to exercise regularly			0.800	
In the long run, people who take care of themselves stay healthy			0.628	
In general, I do things that make me healthy			0.865	
Body Image (Cash & Fleming, 2002)	**6**	**0.94**		**2.50**
I feel positive towards my body			0.868	
My body is not perfect, but I like it.			0.841	
I am happy with my body.			0.907	
I think my body is attractive.			0.884	
I feel good about my body when I am naked.			0.883	
I have the body I want.			0.846	

TABLE 2:
Demographic Characteristics of Responders

Category:		n:	Percent:	Category:		n:	Percent:
Age:	Under 20	11	1.9	Education:	no HS	10	1.8
	20-29	100	17.7		High School or GED	53	9.4
	30-39	102	18		Some college	135	23.9
	40-49	93	16.4		Bachelor's	174	30.7
	50-59	98	17.3		Some graduate	29	5.1
	60-69	82	14.5		Master's	84	14.8
	70 and over	49	8.7		Some post graduate	21	3.7
	Missing	31	5.5		Terminal	27	4.8
Income:	Below $10,000	54	9.5		Missing	33	5.8
	$10,000-$19.999	49	8.7	Ethnicity:	White	416	73.5
	$20,000-$29,999	46	8.1		African-American	28	4.9
	$30,000-$39,999	54	9.5		Hispanic	38	6.7
	$40,000-$49,999	46	8.1		Asian/Pacific Islander	23	4.1
	$50,000-$59,999	47	8.3		Other	27	4.8
	$60,000-$69,999	43	7.6		Missing	34	6
	$70,000-$79,999	38	6.7	Gender:	Male	251	44.3
	$80,000 and above	147	26		Female	280	49.5
	Missing	42	7.4		Missing	35	6.2

TABLE 3:
Correlation Results

Variable	N	Mean	SD	1	2	3	4	5	6	7	8
Health Consciousness	554	3.01	.550								
Self-Efficacy	554	2.97	.557	.449**							
Preventative Health Behaviors	554	2.18	.383	.399**	.609**						
Perceived Nutrition Knowledge	552	2.66	.772	.391**	.400**	.302**					
Body Image	550	2.49	.820	.093*	.355**	.286**	.231**				
Wish to use info	537	2.88	.928	.266**	.246**	.230**	.146**	-.039			
Menu expanded	540	2.54	.824	.380**	.298**	.289**	.200**	.082	.382**		
Menu expressive	539	2.58	.746	.331**	.273**	.271**	.169**	.096*	.292**	.637	
Menu calories	540	2.78	.880	.313**	.271**	.266**	.172**	.083	.391**	.742**	.561**

* ≤ 0.05
** ≤ 0.01

Based on consumer characteristics seen in Table 4, the following results were found to be significant (all of the results have p-values ≤ 0.015):

- Health conscious consumers were found to use nutrition information (supporting hypothesis H_{1a}), prefer calorie-only information (supporting hypothesis H_{4a}), and are more likely to prefer expanded information (supporting hypothesis H_{4d}).
- Consumers who engage in health prevention measures were found to use nutrition information (supporting hypothesis H_{1b}), prefer calorie-only information (supporting hypothesis H_{4b}), and are more likely to prefer expanded information (supporting hypothesis H_{4e}).

TABLE 4:
T-test Results

Hypotheses	Group/n:	Mean	SD	T-value	Df	p
H_{1a}: Consumers with higher levels of health consciousness are more likely to use nutrition information on the menu.	High/228: Low/306:	3.158 2.663	0.891 0.899	6.312	532	0.000**
H_{1b}: Consumers who engage in health prevention measures are more likely to use nutrition information on the menu.	High/255: Low/282:	2.620 2.511	0.863 0.962	4.897	522	0.000**
H_{2a}: Consumers with positive body image are more likely to use nutrition information on the menu.	High/252:	2.810	0.823	1.495	535	0.135
	Low/282:	2.936	0.861			
H_{3a}: Consumers with higher levels of perceived nutrition knowledge are more likely to use nutrition information on the menu.	High/172: Low/360:	2.721 2.483	0.840 0.838	3.058	530	0.002*
H_{3b}: Consumers with higher levels of self-efficacy are more likely to use nutrition information on the menu.	High/329:	2.742	0.767	6.478	531	0.000**
	Low/204:	2.275	0.873			
H_{4a}: Consumers with higher levels of health consciousness are more likely to prefer calorie-only nutrition information.	High/229: Low/308:	3.039 2.578	0.834 0.864	6.211	535	0.000**
H_{4b}: Consumers who engage in health prevention measures are more likely to prefer calorie-only nutrition information.	High/229: Low/308:	3.039	0.834	4.025	525	0.000**
		2.578	0.864			
H_{4c}: Consumers with higher levels of perceived nutrition knowledge are more likely to prefer calorie-only nutrition information.	High/172: Low/360:	2.936	0.832	2.851	530	0.005*
		2.706	0.891			
H_{4d}: Consumers with higher levels of health consciousness are more likely to prefer expanded nutrition information.	High/229: Low/308:	2.860 2.302	0.815 0.751	8.217	535	0.000**
H_{4e}: Consumers who engage in health prevention measures are more likely to prefer expanded nutrition information.	High/298: Low/229:	2.681 2.376	0.801 0.821	4.294	525	0.000**
H_{4f}: Consumers with higher levels of perceived nutrition knowledge are more likely to prefer expanded nutrition information.	High/172: Low/360:	2.669 2.483	0.824 0.821	2.432	530	0.015*
H_{4g}: Consumers with higher levels of self-efficacy are more likely to prefer expressive nutrition information on the menu.	High/329: Low/203:	2.711 2.374	0.697 0.776	5.182	530	0.000**
H_{4h}: Consumers with higher levels of body image are more likely to prefer expressive nutrition information on the menu.	High/255: Low/280:	2.550 2.610	0.728 0.760.	-.897	533	0.370

- Consumers with self-efficacy were found to use nutrition information (supporting hypothesis H_{3b}), prefer calorie-only information (supporting hypothesis H_{4b}), and are more likely to prefer expressive information (supporting hypothesis H_{4g}).
- Consumers with perceived nutrition knowledge were found to use nutrition information (supporting hypothesis H_{3a}), prefer calorie-only information (supporting hypothesis H_{4c}), and are more likely to prefer expanded nutrition information (supporting hypothesis H_{4f}).

DISCUSSION AND CONCLUSION

Eating out is an activity that occurs frequently. This research addresses a gap in the literature by investigating whether consumers with higher levels of health consciousness, preventive health behaviors, perceived nutrition knowledge, self-efficacy, and body image, use the nutrition information on the menu and have preferences for the framing of that information than consumers with lower levels of these constructs when eating out. This study indicates that consumers with higher levels of the consumer characteristics measured, except for body image, do use nutrition information when eating out and do not have a particular preference for the framing of that information, thus the inclusion of nutrition information on the menu is of benefit to these consumers in order for them to select the menu item, whether it be healthy or unhealthy, with full knowledge.

The measured consumer characteristics, such as health consciousness, health prevention measures, perceived nutrition knowledge, and self-efficacy appear to impact the desire for expanded nutrition information and the desire to have this information on the menu. Body image does not impact the desire to use nutrition information nor the desire to have this information on the menu. The results of the correlation analysis indicate that although consumers high in health consciousness, preventive health behaviors, self-efficacy, and perceived nutrition knowledge prefer nutrition information, there is no single preference regarding how this information should be framed. Thus, the indication is that consumers will interpret any information, regardless of how it is presented. Therefore, the calorie amounts currently provided on the menu appear satisfactory as these consumers do not express a specific preference for how the nutrition information is presented. However, this does not imply consumers actually understand the information as more than one-third of the respondents (39.2%), when asked if they knew a lot about nutrition, responded with disagree or strongly disagree. It is possible that this lack of understanding impacts the acceptance of calorie only information and, although not investigated, if nutrition knowledge and understanding increased, the desired framing of the information may change.

The implications of this study are that it confirms that the mandatory legislation of providing consumers with nutrition information when eating out is useful, yet the framing of this nutrition information is not as important. Since consumers did not express a strong preference for a specific type of message, the required calorie information on the menu may be adequate. However, the nutrition labeling laws do not allow restaurants to select only those “healthy” or “lower calorie” menu items to be labeled. Thus, by providing this calorie information on all menu items, restaurants may have to change their menu offerings, how they prepare an item, or the portion size of the item, since consumers may not select the very high calorie items when they are confronted with this information. To policy makers desiring to reinforce healthy attitudes, this paper seeks to encourage the provision of nutrition information at all restaurants, and not only those larger chain restaurants that are impacted by the current legislation. Additionally, policy makers may consider adding an educational component allowing them to accurately interpret the nutrition information as it appears on the menu. To a marketing educator, this paper provides a basis to discuss marketing concepts, such as consumer behavior, impact of legislation of marketing, marketing ethics, and consumer bill of rights.

Limitations of this study include self-reported data. The exploratory nature of the study may have omitted characteristics that may also contribute to the explanation regarding the use of nutrition information when eating out.

Future research lies in several directions. First, it might be very useful to refine the scales themselves. One multidimensional scale would be beneficial for future research. Future research could also include conducting the study in a restaurant where the consumer would actually have to eat the food selected, as well as evaluating the social situation and occasion for the meal. An in-depth study of underlying factors and moderating effects could provide interesting explanations and normative prescriptions. For example, ascertaining underlying health conditions and the impact on the menu selection, as well as their typical diet, should be investigated. It would be of interest to conduct cross-cultural studies comparing the attitudes of the US consumers with those in other countries. Additionally, the consumer's overall normal eating behavior should be investigated to determine if the meal eaten out is similar to a meal eaten at home, or consistent with their normal diet.

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