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WHAT FACTORS DETERMINE COLLEGE STUDENTS' PURCHASING INTENTIONS  
TOWARD NUTRITIONAL MENU ITEMS?

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# **WHAT FACTORS DETERMINE COLLEGE STUDENTS' PURCHASING INTENTIONS TOWARD NUTRITIONAL MENU ITEMS?**

## **Abstract**

The purpose of this study is to examine the factors that impact college students' purchase intentions when provided with a more healthful option. This study specifically examined the following factors; gender differences, price sensitivity characteristics, price, dining location, discretionary income, college major, year in school and nutrition knowledge. A questionnaire was completed by 159 college students at a large Northeast university.

College students answered questions based on a scenario of their purchase intentions that featured two different variations of pricing schemes with nutritional information staying the same. The two pricing scenarios included a more than average price and a less than average price. The results indicated that students' frequent choice of dining location and discretionary income were significant factors when deciding to purchase a nutritional entrée. This information could be very useful for college dining halls and restaurants within a college town. Pricing, menu design and marketing are key areas that could benefit this information to enhance customer satisfaction and increase revenue for operations that have a college student customer base.

## Table of Contents

<b>Chapter 1</b>	
<i>Introduction</i> .....	1
Definition of the Problem.....	1
Background.....	2
Implications of the Study.....	2
<b>Chapter 2</b>	
<i>Related Literature</i> .....	3
College Students Eating Habits.....	3
Price Sensitivity.....	3
Nutritional Labeling.....	5
Nutrition Knowledge.....	6
Gender Differences.....	8
<b>Chapter 3</b>	
<i>Methodology</i> .....	9
Population.....	9
Instruments.....	9
Data Collection.....	11
Data Analysis.....	11
<b>Chapter 4</b>	
<i>Results</i> .....	14
Population.....	14
Study Questions.....	15
<b>Chapter 5</b>	
<i>Conclusion and Implications</i> .....	17
Limitations to Study.....	17
Suggestions for Further Research.....	18
<i>Appendix A</i> .....	20
<i>Appendix B</i> .....	21
<i>Appendix C</i> .....	22
<i>Appendix D</i> .....	23
<i>Appendix E</i> .....	24
<i>Appendix F</i> .....	25
<i>References</i> .....	26

# CHAPTER 1

## INTRODUCTION

### **Definition of the Problem**

Our society has grown to love fried and fatty food items as well as fast food that we can quickly devour in our fast-paced lives. This fascination has also increased because these items are usually inexpensive. In the process, US citizens have potentially sacrificed their current and future health. This is especially the case in university settings because of students' change in lifestyles as well as stress involving the balance of study, part-time employment, and social activities. Adolescent obesity, the infamous freshman 15, as well as a multitude of public health issues is a huge problem in our society (Gorden-Larsen, 2009). This paper summarizes a study conducted to explore the factors associated with student's intentions to choose more healthful, including entrée prices.

### **Background**

The phenomenon called the Freshman 15 has been a scary concept for most graduating high school seniors who are about to embark on their next step in life: the college experience. According to recent studies, new college students have a reason to be nervous. A recent study found that nearly a quarter of college freshman gain an average of 10 pounds during their first semester of college life (Warner, 2010). This alarming statistic shows that this is an important time for students to start obesity prevention strategies.

Not only is the freshman 15 phenomenon an important issue, it is even more startling because recent studies have shown that obese teens are at risk of becoming severely obese as adults (Gorden-Larsen, 2009). Once some students start gaining weight freshman year and become obese, they will continue to become severely obese. A recent study confirmed this statement after researchers followed teenagers for over 13 years. In 1996 when the study began, "1% of the teens were severely obese, but 70.5% remained severely obese in adulthood (Gorden-Larsen, 2009)." Even more interesting is that "less than 5% of those who were at a normal weight as teens became severely obese as young adults (Gorden-Larsen, 2009)."

For these teenagers and young adults, early eating habits can develop into obesity, which means there is so much body fat that a person's health is in danger. Obesity can lead to serious health

issues such as heart disease, type 2 diabetes, high blood pressure, stroke, arthritis, and sleep apnea (Mokdad, Ford, Bowman, Dietz, Vinicor, Bales, et al., 2001).

These statistics show that it is very important for teenagers and young adults to stay fit and healthy especially through college in order to lead a long and healthy lifestyle into adulthood. Do college students value more healthful eating to maintain proper weight? Another question is – given the typical budgetary constraints of college students, which is more important: price or entrees with a more healthful profile? The purpose of this paper is to explore students’ willingness to pay more than average for a more healthful entrée. Other studies have been conducted in the same area of research, but none of them have solely focused on college students’ willingness to pay more in order to obtain more healthful food options.

### **Implications of this Study**

Many operations such as high school cafeterias, college dining halls, as well as restaurants in a college town can use this information in various ways such as pricing, menu design and marketing depending on the results of this study. Businesses could use this information to market their products to certain segments. If a business serves a high volume of young adults and college students, they could market their healthy options to this segment. This could be easily done by placing flyers that show nutritional menu items in buildings on campus. If these businesses do not already have nutritional items they could revamp their menu by adding more healthful nutritional items in order to meet the demand. . Menu items that appeal to men or women could also be positioned and marketed according to any purchasing intention differences found by of the study.

Pricing for food operations in college towns could also use this information. These food service operations could price each menu item according to the students’ purchase intentions for more healthful food items. If the results indicate that college students’ will purchase more healthful food entrees, restaurants can maximize revenue by increasing prices and adjusting accordingly to the demand.

## **CHAPTER 2 RELATED LITERATURE**

### **College Students' Eating Behaviors**

Many studies have focused on factors that contribute to college students' eating habits. One study administered a questionnaire to 319 college students living in residence. The questions were based on food motivations and food choices. The study determined that the top five motivating factors for determining college students' eating habits in order of most important are convenience, price, pleasure, health and concern about weight (Marquis, 2005). This is an indicator of how college students base their eating decisions on ability to eat quick and convenient food items. Marquis found that price was a large motivating factor in determining college students' eating habits but did not focus on prices associated with nutritional items.

### **Price Sensitivity**

Price is a huge conversational item and variable for most college students. Most college students do not have a lot of discretionary income. Only a few studies have touched on this topic for college students, and they have concluded that it is a major focal point for decisions (Marquis, 2005). The only problem is that not much research has been conducted to further determine students' price sensitivity. Many studies have been conducted on the effects of consumer participation on price sensitivity as a whole (Bolton & Alba, 2006; McCall & Bruneau, 2010; Hsieh & Chang, 2004).

One study by Hsieh and Chang took a closer look at the effects of consumer participation on price sensitivity. A 14-item Likert-type questionnaire was completed by 167 participants at a fast food restaurant. The same type of questionnaire was also distributed to 145 participants at a hair salon. The questionnaire was designed to feature two different industries, fast food restaurants with low service interaction and hair salons with high service interaction. The study concluded that the higher interaction scenario between customer and sales associate was related to more price inelasticity. Consumers will be less sensitive to price increases if they receive more attention and service by the associates. This means that an industry such as hair salons is more

price inelastic than the fast food industry which has higher consumer price sensitivity (Hsieh & Chang, 2004).

Another study by Bolton and Alba (2006), explored the realm of price fairness for goods and services. The study conducted four experiments using college students and university staff members to assess consumer perceptions of price fluctuations for various items. The study concluded that when a cost increase aligns with price or offers something more to the customer, the customer will be more accepting. The study also concluded that when a cost increase is non-align able to the price increase, consumers will be more receptive to a service price increase than a goods price increase (Bolton & Alba, 2006). This shows that consumers will be more willing to pay more for an item if they are treated well rather than receiving the item solely on its own. A study by McCall (2010) concluded from an online survey of 106 consumers that price sensitivity in restaurants is apparent “Price sensitive consumers are likely to be value conscious consumers as well. Diners perceive themselves to be knowledgeable bargain hunters who seek to maintain an important balance between price and quality (McCall & Bruneau, 2010).

Discretionary Income for college students plays a large role in dining and eating habits because this is what is used when going out to eat at restaurants. According to a study by Technomic (2009) each student in college in the United States had on average \$3529 of discretionary income each year. The study also indicated that “four out of 10 students (39 percent) are visiting on-campus retail stores less frequently, and nearly a third of those surveyed (32 percent) say they are purchasing food and beverages more often from off-campus retail or grocery stores this year. (Technomic, 2009)” This means that students’ discretionary income will be used for off campus food purchases and has a large impact on their purchasing decisions.

Overall, there have been many studies performed on general college students regarding nutrition, nutrition knowledge and price (Bolton & Alba, 2006; Hsieh & Chang, 2004; Marquis, 2005; McCall & Bruneau, 2010), but this study sought to fill a gap to determine if college students’ are willing to pay additionally for more healthful food options. Depending on the results, the information could be used for businesses or operations focused on student clientele when determining their pricing, menu or marketing schemes. In this study there were three main

variables for students' purchase intentions that are based on price theories. These three variables are price, the price sensitivity of the participant and discretionary income.

Due to past literature on price issues and college students' food behaviors, it is hypothesized that:

**Hypothesis 1:** Price will have negative impact on purchase intentions for a more healthful healthy restaurant entrée.

**Hypothesis 2:** Price sensitivity will have a negative impact on purchase intentions for a more healthful restaurant entrée.

**Hypothesis 3:** Discretionary income will have a positive impact on purchase intentions for a more healthful restaurant entrée

### **Nutritional Labeling**

Many studies have been conducted on the use of nutritional labeling in a dining hall or food court setting (Freeman, 2011; Kolodinsky, Green, Michahelles & Harvey-Berino, 2008). This research also has been extensively tested in colleges and universities because of the special nature of the students who eat in these dining halls (Chu, 2009; Williams, 2008). College students lack time, knowledge and most of the students are on a pre-purchased food plan.

All of the university- and nutrition-based studies conclude that college students prefer to have nutritional labels present when purchasing food items and will most likely select a healthier option based on this knowledge (Kolodinsky, Berino, Berlin, Johnson & Reynolds, 2007). The only problem is most college students are not knowledgeable enough to make these choices without nutritional information present. I used this previous research to design my study to determine if college students will select more healthful restaurant entrees when presented with nutritional information and indicate that they would pay more for these items. Conducting this study with college students creates a possible barrier because of the varying amount of disposable income that college students have to buy food in restaurants.



## **Nutrition Knowledge**

As indicated earlier, one of the main reasons students don't choose more healthful foods is due to the lack of nutritional knowledge. A study by Peterson and colleagues (2010) selected 104 college students to be involved in three week intervention on health knowledge. The students had to complete a pre-and post-survey. The intervention included indicators at the point of sale on which food items were more healthful as well as distribution of flyers in the dining hall on health tips. The study concluded that the students' perceptions and selections of healthful food in the dining hall improved. This study is important because college students will eat healthier as long as they are fully aware of what to eat in college dining hall setting, but will this behavior translate to eating in restaurants (Peterson, Duncan, Null, Roth & Gill, 2010)?

There also have been studies on college students' nutritional knowledge (Chu, 2009; Kolodinsky et al., 2008). One study was developed to see the effects of using nutritional labels at a college food-court setting. Sixteen students attended a focus group and the researchers determined that "students want nutrition labels and would use them to make food purchasing decisions" (Kolodinsky et al., 2008). Another similar study by Chu (2009) provided patrons of university food-service operations nutritional information at the point of selection. Chu determined that the use of nutritional labels reduced the average caloric content of entrees purchased without reducing overall sales. A study by Freeman obtained similar findings associated with providing students with nutritional information for French fries. "The consumption of "large" portions of French fries decreased (Freeman, 2011)."

There also have been many studies conducted to determine the knowledge of college students and their distortion of food portion sizes. One study concluded that college students were unable to accurately identify the correct volume of a recommended food or beverage serving size regardless of whether students had taken a nutrition course or received nutritional education (Sealey-Potts, Alfaro, Horine & Kallus, 2009). Another study conducted on college students nutrition knowledge involved 200 college students also revealed that nutrition knowledge is related to more healthful food choices. (Kolodinsky et al., 2007)

The idea that college students lack knowledge about nutritional food items is presented by Williams (2008). In her study she developed a four part written questionnaire that was

distributed to 50 sophomores, junior, senior and graduate students. Sixteen percent of the subjects had adequate nutrition knowledge, and 18 percent had good nutrition habits. The study concluded that nutrition knowledge was related to food choices, but determined students lacked knowledge about the Food Guide Pyramid and dietary concepts about cholesterol, fat and sodium intake.

Brevard and Ricketts (1996) identified the differences between dietary intake and physical activity between college students who live on campus and students who live off campus. The study indicated that students who live off campus have an increased intake of protein levels. The research indicated that overall living arrangements for college students influence food choices.

Overall, past literature suggests that there are many nutrition-based factors that influence college students' food choices. Some of these factors are nutritional knowledge or awareness, living and dining location, year in class, and nutrition labeling information. This research will explore whether these variables are related to college students' purchase intentions associated with more healthful restaurant entrees at different prices. Due to past literature on nutrition awareness and eating behaviors of college students it is hypothesized that:

***Hypothesis 4:*** Nutrition awareness will have a positive impact on purchase intentions for a more healthful restaurant entrée.

***Hypothesis 5:*** Students in a more nutrition-conscientious major will have more favorable purchase intentions for a more healthful restaurant entrée.

***Hypothesis 6:*** Students who regularly dine in more nutrition-conscientious dining facilities will have more favorable purchase intentions for a more healthful restaurant entrée

***Hypothesis 7:*** Freshman will have less favorable purchase intentions for a more healthful restaurant entrée.

## **Gender Differences**

One study at a Midwestern university assessed the differences between males and females purchasing decisions based on a voluntary descriptive 15-item written questionnaire (Driskell, Schake & Detter, 2008). The study examined 114 men and 91 females' purchasing decisions when nutritional labels were used. A significantly higher percentage of women used the nutritional information when purchasing their food. Most reasons for using the information was based on previous nutrition knowledge, overall health concerns and concerns about a particular nutrient. (Driskell et al., 2008)

Another study based on gender was conducted at a southern university (Debate, Topping & Sargent, 2001). A survey was distributed to over 700 college students with 32% male and 68% female. Each participant answered a 37-item Likert-type questionnaire to assess diet practices and weight control behaviors. The study concluded that college men are less likely to care about maintaining healthy dietary intake. Men were more likely also to eat more fast food than women (Debate et al., 2001). A nutritional information at point of selection study showed that women were much more likely to use the information in their decision than men (Conklin, Cranage & Lambert, 2005). A study by Debate et al. (2001) showed that 82% of all student participants didn't eat fruits and vegetables. The study also concluded that first-year students had decreased levels of physical and psychological health (Debate et al., 2001).

Overall, past literature suggests that there is a difference between genders when dealing with healthy food choices: women will most likely be more influenced by nutritional information when purchasing a food item. Thus, it is hypothesized:

***Hypothesis 8:*** Females will have more favorable purchase intentions for a more healthful restaurant entrée.

## **CHAPTER 3 METHODOLOGY**

### **Population**

The population for the study was students at a four year, Northeastern university. The population consisted of 159 college students in classes that contained a majority of students that were hospitality and nutrition majors. The survey was conducted in five different hospitality classes that featured students of all class ranks.

### **Instruments**

The study was conducted using a 21-question survey. The survey was developed after establishing a gap in past literature conducted on nutritional information and price sensitivity for college students. The survey was designed after reviewing previous studies that examined college students' more healthful eating behaviors in dining hall and restaurants (Alfnes & Sharma, 2010; Conklin, Cranage, 2009). Survey questions were derived from these previous studies as well as for formatting purposes.

A pilot study was conducted with 15 college students to determine the clarity of the questions. The survey was based on a a scenario question that placed participants in a situation where they indicated how likely they were to purchase a more healthful restaurant entrée, In addition, there were questions related to nutritional awareness, eating behaviors, and personal information. The rest of the questionnaire which is described later was held constant between all of the surveys.

The scenario question was based on a 2x1 design. Participants each received a questionnaire listing a chicken entrée with the same food description, caloric and fat content, but with two different pricing situations. One group received a questionnaire with a healthy chicken entree (650 calories, 23 g Fat) with a less than average price (\$11). Another group of students received a questionnaire featuring a healthy chicken entrée (650 calories, 23 g Fat) with a more than average price (\$16). Examples of the scenario questions in the questionnaire are located in Appendix A and B.

The next section of the survey labeled "*About Yourself,*" gathered nutritional and price information from each participant through 12 Likert-type questions. The nutritional information

was used to assess participants' awareness of healthy eating habits and whether the participants used nutrition and/ or price when deciding on food options. Each question was based on a Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). An example of a nutritional information question is "*I usually avoid eating foods that are fried.*" In order to determine each student's nutritional awareness and eating behaviors, a nutritional awareness score had to be created in order to run the analysis. If the participant answered with an average a score of 6 or higher on the Likert scale for the nine nutrition awareness questions in the "*About Yourself*" section of the survey, there were considered nutritionally aware (Cronbach's alpha=.85). See Appendix E.

This section also included two questions involving the price sensitivity of each participant. These questions were also based on a Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). An example of the price sensitivity question is "*Price has a strong influence on my food decisions.*" A price sensitivity variable was also created based on an average of the participants' answers to the two price questions in the "*About Yourself*" section (price  $r = .71$ ). See Appendix E.

A 13<sup>th</sup> question in this section included a question that addressed how much more the participants would pay to ensure more nutritional food items in restaurants and similar establishments. This question could be answered in a percentage range from 0 to more than 20%.

The final section of the survey labeled "*General Information,*" consisted of seven questions based on general information about the participant. This section included demographics such as age, gender, year in school and major. Other questions in this section focused on dining location and a self assessment on the participants' perception of their weight. The questions associated with the hypothesis questions are provided in a table in appendix F. The examples of the "*General Information*" and "*About Yourself*" sections are also located in appendix C and D.

The variables derived from various questions within the "*General Information*" section include year of school, gender differences, price, major, discretionary income and dining location. The year of school variable ranged from freshmen to seniors in college to determine if age or knowledge had an impact on purchase intentions. The price of the menu item was used as a variable to do determine if the students were affected in their willingness to purchase the chicken

entrée. Gender difference was a factor to determine if women were less impacted by the price and willing to pay more for a more healthful entrée. College major was an important factor to determine if a major that is more aware about nutrition would be more willing to purchase a more healthful restaurant entree. Discretionary income was considered because if a student's parents help in paying for food options, students' purchase intentions for a more healthful restaurant entrée might be less influenced by price. . The last factor in the "general Information" section is the participants frequent dining location. It is important to determine if student's who choose dining locations that are considered "nutrition conscious" will look for more healthful entrees when dining in a restaurant when answering the scenario question.

The variables from the "General Information" section were directly correlated to the dependent variable of how likely the participant would purchase the entrée. These factors included; gender differences, higher or lower than average pricing, students' major, dining location, discretionary income and current year in school.

### **Data Collection**

Surveys were distributed in a total of five hospitality classes with the permission of the professors. These classes included two human resources courses, a hotel introduction course, a food safety class, and a decision making and information systems course. Before each class, the surveys were shuffled in a pile to ensure that each variation of the survey would be distributed equally throughout the class. The participants did not have any idea that there were different variations of the survey. A brief overview of the survey was conducted before handing out the survey to the students. The completion of the survey was completely voluntary and the students' had no penalty for not completing the survey. There was not any emphasis such as extra credit for the participants if they did complete the survey. The survey was also completely anonymous and the survey only took between five to ten minutes to complete. Data collection procedures as well as survey format were approved by the Institutional Review Board and Human Subjects Protection Office.

### **Data Analysis**

In order to analyze the data for this study, each survey was given an identification number and entered into a Microsoft Excel Spreadsheet. After each of the surveys were correctly entered

into EXCEL, the data could be entered into the statistical analysis program SPSS (version 18). The data were first analyzed to determine frequency of responses of each question and to determine if there were any outliers indicating a possible problem when entering the data. The next step was to use a multiple regression to determine which variables were significantly related to participants' choices of a more healthful restaurant entrée.

## **CHAPTER 4 RESULTS**

### **Population**

The population included a majority (50%) of juniors who were in hospitality and nutrition majors. The participants were 34% males and 66 % females. Approximately 39% of the participants said they would be willing to pay 16-20% more for healthful food items. Full demographics are displayed below in Table A.



**Table A**

<b>DEMOGRAPHICS</b>	<b>COUNT</b>	<b>PERCENTAGE</b>
<b>Gender</b>		
<i>Males</i>	54	34%
<i>Females</i>	105	66%
<b>Major</b>		
<i>Hospitality</i>	100	63%
<i>Nutrition</i>	39	25%
<i>Other</i>	20	11%
<b>Class Rank</b>		
<i>Freshman</i>	22	14%
<i>Sophomore</i>	28	18%
<i>Junior</i>	80	50%
<i>Senior</i>	29	18%
<b>Discretionary Income</b>		
<i>Yes</i>	88	55%
<i>No</i>	71	45%
<b>% Extra</b>		
<i>0%</i>	6	3%
<i>1-5%</i>	52	32%
<i>6-10%</i>	62	39%
<i>11-15%</i>	25	16%
<i>16-20%</i>	11	7%
<i>More than 20%</i>	3	1%
<b>Dining Hall</b>		
<i>Simmons Dining Hall</i>	10	6%
<i>Findlay Commons</i>	10	6%
<i>Redifer Commons</i>	14	9%
<i>Waring commons</i>	5	3%
<i>Warnock Commons</i>	3	2%
<i>Polock Commons</i>	3	2%
<i>Mateer Building</i>	5	3%
<i>Hub-Robeson Center</i>	15	9%
<i>Cook Meals at Home</i>	87	55%
<i>Other (Restaurant, Delivery)</i>	7	4%

## Study Questions

Statistical analysis showed that the overall analysis of the eight variables through multiple regression showed a total R-Square of 7.5%. This shows that overall analysis explained almost 8% of the variance associated with college students' purchase intentions for more healthful restaurant entrees using a scenario approach. .

ANOVA analysis of the one tailed test showed that the entire data has a total significance of .154 which is shown in Table B. This means that the overall data does not have a significance level of ( $P < .05$ ). Although the overall data didn't have a high significance there were two variables that were considered to be significant (see Table C). These two variables are dining location with a significance of  $p < .04$  and discretionary income with a high significance of .005. The *Beta* coefficient for the discretionary money variable was .73 which states that if students' parents provide money to support discretionary spending, the student would increase their purchase intention of the more healthful item on the 1 to 7 scale by .73 more than the average student. The *Beta* coefficient for the frequent dining location variable was 1.02 which indicates that if the student eats regularly at a nutritional conscious dining hall their purchase intention for the more healthful restaurant entree would increase on the scale of 1 to 7 by 1.02 greater than the average student.

This indicates that Hypothesis 3 and 6 were supported. Students who regularly dine in more nutrition-conscious dining facilities will have greater purchase intentions for a more healthful menu item. Discretionary income will have a positive impact on purchase intentions for a more healthful restaurant entree.

**Table C****Regression of Purchase Intentions on Predictors**

Predictor	<i>B</i>	<i>t</i>
Price	-.07	-.26
Discretionary Money <sup>a</sup>	.73	2.61**
Price Sensitivity	-.01	-.079
Nutrition Sensitivity	-.11	-.93
Major <sup>b</sup>	-.31	-.87
Dining Hall <sup>c</sup>	1.02	1.77*
Freshman	-.29	-.70
Gender <sup>d</sup>	.03	.10
<i>R</i> <sup>2</sup>	.08	
<i>F</i>	1.52	

*Note:*  $n = 159$ . Standardized regression coefficients are presented. \*  $p < .05$  \*\*  $p < .01$ . Significance levels reflect one-tailed tests.

<sup>a</sup>1 = Receive Discretionary Money from Parents, 0 = Do not

<sup>b</sup>1 = Nutrition, 0 = Other

<sup>c</sup>1 = Simmons, 0 = Other

<sup>d</sup>1 = Female, 0 = Male

## **CHAPTER 5 CONCLUSION AND IMPLICATIONS**

Unfortunately, there isn't much statistical evidence proving that all of the hypotheses are correct. Overall, discretionary income and Simmons dining hall are the two variables that did have statistical significance to the purchase intentions of each participant. The rest of the hypotheses were identified as not significantly related to choosing a more healthful restaurant entrée from a written scenario. This conclusion does derive some potential tools for establishments that cater to mostly college students such as dining halls or restaurants in college towns.

Dining halls that are known as a nutrition conscious dining hall such as Simmons Dining hall could be targeted by restaurants in the town that provide more healthful menu items. These dining halls could be used for marketing their healthy entrees in order to bring attention to the restaurant. These marketing efforts could include flyers or coupons that offer discounts for price sensitive students. The prices of these more healthful menu items could even be raised if the demand from students starts to increase for the restaurant. This would provide the students with more healthful food options as well as bring in more revenue for restaurants that provide healthier menu items.

It is tough for establishments to identify the difference between students who have discretionary items paid for by themselves or their parents, but this information can still be useful.

Universities or college towns with a large percentage of students that have discretionary items paid for by parents could add more healthful entrees to the menu because they know the items will be purchased. Extensive marketing could be focused on the introduction of healthier food items all over town. These establishments could even have price increases for healthy items already on the menu.

### **Limitations to Study**

There are a number of limitations to this study. First, it was limited to students at one university. This develops a potential issue because one university doesn't reflect choices of all college students in the United States. Geographic and demographic differences from university to university could easily change the results. A second issue with the study is that only four majors were represented (Hospitality, Human Development and Family studies, Nutrition and

Undecided). This may impact the results because this small population of five majors did not represent the total university as a whole. These majors were only a small portion of the student body considering the amount of possible majors at these universities and other universities across the nation.

Considering the study focused on the intentions of students' purchasing, it is not entirely simulating true decisions by the participations. Actual purchasing behaviors were not visually retrieved during this study. Also, the study didn't take into account vegetarians that may have completed the survey. Considering the fact that the only entrée available in the scenario was a chicken entrée, vegetarians' decisions could have skewed the data.

### **Suggestions for Further Research**

To further analyze this research topic there is much more research that could be conducted. The first step that could be taken is to conduct this study randomly in universities across the country. The size of universities will be important because large and small universities need to be evaluated. This study only analyzed college students that were mostly between 18 and 20 years old in a total of five majors. A much larger selection of college majors should be addressed in order to depict the entire student body as a whole. The last suggestion for further research is to conduct this study in a real life situation instead of a theoretical scenario. The questionnaire doesn't depict the true purchase intentions of the students because real money is not involved. The actual act of purchasing would be a true determinant of whether college students would purchase certain menu items. This topic could be researched at a one restaurant in a college town or even restaurants across the country to evaluate college students in the United States. Multiple items should be looked at as well in order to diminish skewed results due to favoritism towards certain items or students that are vegetarian. This study has a lot of room for further research in order to address the college students' purchase intentions towards more healthful restaurant entrees.

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## Appendix A: Scenario 1: Healthy entrée with a lower than average price

### ◆ Fletcher's Bistro ◆ **THE CHEF'S SPECIAL**

It's Friday night. You and your friends are having dinner at one of your favorite restaurants, Fletcher's Bistro. You eat here frequently, almost once a week. Fletcher's is a mid-scale restaurant that offers a wide range of dishes, such as pasta, chicken, beef, and vegetarian entrees. This is great because you enjoy all types of food dishes.

The prices for entrees range from \$10.00 to \$16.00, averaging \$14.00. All of the entrees range between 600 calories and 20 grams of fat to 1600 calories and 50 grams of fat, averaging 920 calories and 35 grams of fat. Tonight Fletcher's is offering *Lemon Herb Roasted Chicken* as its chef special.

#### **Lemon Herb Roasted Chicken**

\$11.00

This is a classic Fletcher's favorite. An oven roasted chicken breast served with Idaho mashed potatoes and sautéed vegetables. Topped with a zesty lemon garlic and herb sauce.

Calories: 650 Grams of Fat: 23

➔ How likely is it that you would order this entrée?

Not at all Likely			Neutral			Very Likely
1	2	3	4	5	6	7

**Appendix B: Scenario 2 Healthy entrée with more than average price**

◆ Fletcher’s Bistro◆  
**THE CHEF’S SPECIAL**

It’s Friday night. You and your friends are having dinner at one of your favorite restaurants, Fletcher’s Bistro. You eat here frequently, almost once a week. Fletcher’s is a mid-scale restaurant that offers a wide range of dishes, such as pasta, chicken, beef, and vegetarian entrees. This is great because you enjoy all types of food dishes.

The prices for entrees range from \$10.00 to \$16.00, averaging \$14.00. All of the entrees range between 600 calories and 20 grams of fat to 1600 calories and 50 grams of fat, averaging 920 calories and 35 grams of fat. Tonight Fletcher’s is offering *Lemon Herb Roasted Chicken* as its chef special.

**Lemon Herb Roasted Chicken** \$16.00

This is a classic Fletcher’s favorite. An oven roasted chicken breast served with Idaho mashed potatoes and sautéed vegetables. Topped with a zesty lemon garlic and herb sauce.

Calories: 650 Grams of Fat: 23

➔ How likely is it that you would order this entrée?

Not at all Likely			Neutral			Very Likely
1	2	3	4	5	6	7



## Appendix C: About Yourself Section of Survey

To what extent do you agree with the following statements?

	<b>Strongly Disagree</b>			<b>Neither Agree nor Disagree</b>			<b>Strongly Agree</b>
1. I usually avoid eating foods that are fried	1	2	3	4	5	6	7
2. When I am buying a soft drink, I usually choose a diet drink	1	2	3	4	5	6	7
3. When I drink or use milk, I usually choose low fat or skim	1	2	3	4	5	6	7
4. I try to usually choose whole wheat breads or grain products	1	2	3	4	5	6	7
5. When I go out to eat, I don't care about how much something costs	1	2	3	4	5	6	7
6. I try to eat the ADA recommended daily intake of vegetable and fruits (5-9 servings)	1	2	3	4	5	6	7
7. I try to eat the ADA recommended daily intake of fiber (25-30 grams)	1	2	3	4	5	6	7
8. Price has a strong influence on my food decisions	1	2	3	4	5	6	7
9. Nutrition has a strong influence on my food decisions	1	2	3	4	5	6	7
10. I try to keep my overall low intake of fat	1	2	3	4	5	6	7
11. I would not consider myself to be "cheap"	1	2	3	4	5	6	7
12. I prefer to eat the healthiest food possible	1	2	3	4	5	6	7

13. What % would you be willing to pay extra to ensure more nutritional food items in restaurants and similar establishments?

- 0% of meal price
- 1-5% of meal price
- 6-10% of meal price
- 11-15% of meal price
- 16-20% of meal price
- More than 20% of meal price

## Appendix D: General Information Section of Survey

### Major

- Nutrition
- Hotel, Restaurant and Institutional Management
- Other (Please List) \_\_\_\_\_

### Gender

- Male
- Female

### Age \_\_\_\_\_

### Year in School

- Freshman
- Sophomore
- Junior
- Senior

### Weight

I think of myself as:

- Highly overweight
- Slightly overweight
- Okay with my weight
- Slightly underweight
- Underweight

### Dining on Campus

I eat MOST frequently at: (Please choose one)

- Simmons Dining Hall
- Findlay Commons
- Redifer Commons
- Waring Commons
- Warnock Commons
- Pollock Commons
- Mateer Building
- Hub- Robeson Center
- Cook Meals at home
- OTHER (Please List) \_\_\_\_\_

### Discretionary Expenses

Do your parents/guardians pay for the majority of your discretionary items (e.g., snack food, dining out, clothing, and entertainment)?

- Yes
- No

**Thank You Very Much!!**

## Appendix E: Nutrition Sensitivity and Price Sensitivity scale items

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### **Nutrition Sensitivity**

I usually avoid eating foods that are fried

When I am buying a soft drink, I usually choose a diet drink

When I drink or use milk, I usually choose low fat or skim

I try to usually choose whole wheat breads or grain products

I try to eat the ADA recommended daily intake of vegetable and fruits (5-9 servings)

I prefer to eat the healthiest food possible

Nutrition has a strong influence on my food decisions

I try to keep my overall low intake of fat

I try to eat the ADA recommended daily intake of fiber (25-30 grams)

### **Price Sensitivity**

When I go out to eat, I don't care about how much something costs

Price has a strong influence on my food decisions

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**Appendix F: Hypothesis Questions with Associated Survey Questions**

<b>Hypothesis Questions</b>	<b>Survey Questions</b>
Their sensitivity to entrée pricing	Questions: 5, 8, 11 in About Yourself Section
Whether their nutrition sensitivity and eating behaviors are more healthful	Questions: 1-4,6,7,9,10,12 in About Yourself Section
The dining hall where they normally eat on campus, or whether they cook off-campus or eat in restaurants off-campus.	Questions: 6 in General Information Section
Gender Differences	Questions: 2 in General Information Section
Class rank (Current year in school)	Questions: 4 in General Information
Majors	Questions: 1 in General Information Section
Price	Question: Scenario question; Either high or lower than average entrée pricing.
Discretionary Income	Question: 7 in General Information Section

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## Education

**The Pennsylvania State University, University Park** *Expected Graduation in May, 2011*

- *Bachelor of Science in Hotel, Restaurant, and Institutional Management*
  - Schreyer Honors College
  - Thesis: "What Factors determine college students' purchase intentions toward nutritional menu items"
  - Thesis Supervisor: Dr. Martha Conklin
  - Thesis Advisor: Dr. Breffni Noone
- 

## Hospitality Experience

**Sheraton Inner Harbor Hotel**

*May 2010-August 2010*

*Starwood Intern*

*Baltimore, MD*

- Composed billing reports and corrected financial transactions for the hotel

**Nemacolin Woodlands Resort**

*May 2008-August 2008*

*Food and Beverage Intern*

*Farmington, PA*

- Delivered friendly service as a server, server assistant, bartender, banquet server and set-up, and food runner
- Collaborated in employee pre-shift meetings to discuss opportunities to deliver service to the best of our abilities for the customer

**Spaghetti and Steakhouse**

*May 2007-August 2007*

*Server*

*Delmont, PA*

- Completed a variety of preparation activities (including: bread station, salad station, table set-up) to improve organization and operation throughout the dining period
  - Prepared guest checks and assured proper money exchanges
- 

## Honors and Activities

- Dean's List Academic Achievement for all 7 semesters at Penn State
  - Alpha Lambda Delta National Freshman Scholastic Honorary, Golden Key International Honour Society
- 

## Relevant Classes

- **Accounting 471:** Intermediary Accounting I
- **Accounting 472:** Intermediary Accounting II
- **HRIM 430:** Advance Food Production and Service Management
- **HRIM 329:** Introduction to Food Production and Service
- **Nutrition 251:** Introductory Principles of Nutrition
- **HRIM 497H:** Honors Thesis Research
- **Nutrition 119:** Elementary Foods