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EFFECT OF SIGNAGE AND SUGGESTIVE SELLING ON SALES OF HEALTHY FOOD OPTIONS IN A UNIVERSITY SETTING

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by

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A Thesis
Submitted in Partial Fulfillment of the Requirements for the
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THESIS APPROVAL

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MAJOR PROFESSOR: Dr. Sylvia Smith

Making healthy eating choices as a college student can be challenging and the transition from adolescence to adulthood can be associated with an increased likelihood of obesity. Studies have shown that college students have poor eating habits and frequent consumption of fast food meals. Studies have reported menu labeling to be effective in influencing college students' purchasing decisions.

During the fall 2009 semester, the Saluki Select Healthy Eating Program was implemented in the Southern Illinois University Carbondale (SIUC) Student Center to aid college students and the public in general to make healthier menu choices.

The purpose of this research study was to compare and analyze marketing techniques for promoting and selling these healthy menu options at the SIUC Student Center. Results showed that signage and suggestive selling increased awareness of Saluki Select foods. Signage and suggestive selling, however, were not found statistically significant for increasing sales of Saluki Select foods.

These findings are important in the planning and implementation of marketing strategies on healthy food options in university dining centers,

foodservice operations, and restaurants. This study can add to the current research on menu labeling by indicating that social marketing does, in fact, increase awareness of healthier food items.

DEDICATION

This thesis is dedicated to my mother, Cheryl Lopez, for always believing in me and encouraging me to reach for the stars. Thank you for all the unconditional love, support, and guidance you have given me and instilling in me the confidence that I am capable of doing anything I set my mind to.

I would also like to dedicate this thesis to my husband, Douglas Hoffman, for his continued love and support and never giving up on my dreams. Thank you, especially, for your patience throughout this journey.

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CHAPTER 1

INTRODUCTION

Making healthy eating choices as a college student can be challenging. The transition from living at home to independent living propagates these challenges for many college students (Smith, Taylor, & Stephen, 1999). In addition, the transition from adolescence to adulthood can be associated with an increase likelihood of obesity (Desai, Miller, Staples, & Bravender, 2008). According to the Centers for Disease Control and Prevention, two-thirds of adults are overweight and 34% are obese. Likewise, the National College Health Risk Behavior Survey suggests that around 35% of college students are either overweight or obese. Poor eating habits can lead to immediate health problems as well as long-term health consequences. A link exists between obesity and nutrition-related diseases such as cardiovascular disease, diabetes, hypertension, and some forms of cancer (Desai et al., 2008).

Studies have shown that college students lack a diet high in fruits and vegetables and report higher intake of high-fat and high-calorie foods (Driskell, Meckna, and Scales, 2006, Boyle and LaRose, 2008). Poor diets can lead to weight gain, low energy levels, inability to concentrate, poor retention of information, and compromised test scores. Furthermore, health problems that were once linked to middle-aged people are now arising in college students. These health problems include type 2 diabetes, hypertension, and dyslipidemia (Desai et al., 2008).

Obesity has been associated with food consumed at fast food restaurants (Satia, Galanko, and Siega-Riz, 2004).Because most college students are always on the go, they rely on fast food restaurants for quick and inexpensive meals. (Morse and Driskell (2009). Many restaurants offer entrees and meals with little nutritional value. However, many restaurants try to include healthier options on their menus, such as salads, grilled chicken, and apple slices. Nevertheless, identifying healthy foods in a restaurant-style setting proves to be a challenge for many people (Krukowski, Harvey-Berino, Kolodinsky, Narsana, & Desisto, 2006).

Marketing is a communication-based process, with the purpose of persuading individuals and communities that what they need or want may be satisfied by the products and services of others (Green & Kreuter, 2005). Social marketing is an important marketing technique used to influence a behavioral change among consumers. The American Marketing Association (2010) defines social marketing as: "Marketing designed to influence the behavior of a target audience in which the benefits of the behavior are intended by the marketer to accrue primarily to the audience or to the society in general and not to the marketer." Social marketing techniques may include billboard signs, radio and TV commercials, mailings, and online advertising to name a few. Additionally, social marketing influences human behavior and may be an effective way to promote nutrition knowledge and awareness to college students (Conklin, Lambert, and Cranage, 2005). Suggestive selling is a marketing technique which capitalizes on the art of selling items to a customer, while suggesting additional items that may

complement the original item (Kizer & Bender, 2007). Suggestive selling can dramatically increase the sale of a particular item. McDonald's participates in suggestive selling everyday by asking their customers, "Would you like fries with that?" or "Would you like to try a hot mocha today?" (Kizer, et al., 2007).

Menu labeling is a form of social marketing and is a current issue in the field of dietetics, as well as the restaurant industry at large. Roberto, Larsen, Agnew, Baik, and Brownell (2010) found that calorie labels on restaurant menus impacted food choices and intake, suggesting government legislation require labels on all foods. Attitude and behavior have been found to be predictors of label use. Attitude and behavior, combined with nutrition education, may have an effect on students' label usage (Misra, 2007). As Marietta, Welshimer, and Anderson (1999) discovered with nutrition label use, college students were interested in some nutritional factors important to their health. For example, the most frequently reported concerns were label information for total fat, calories, calories from fat, and serving sizes rather than information about calcium, iron, and vitamin A (Marietta, et al., 1999).

Nutrition information at point-of-selection, which is received at the time of service, could have a positive effect on college students' eating behaviors (Conklin, Cranage, & Lambert, 2005). According to Buscher, Martin, & Crocker (2001), nutrition information at point-of-purchase may promote the sale of healthy foods to college students. Furthermore, suggestive selling in foodservice operations can increase sales of an item by 17%, as Ebster, Wagner, and Valis (2006) found.

It is undisputed that we are experiencing an obesity epidemic. College students are increasingly among those affected by this problem. Numerous researchers have studied the weight status of college students and their eating habits. However, there is a lack of information on marketing strategies to improve health status and healthy eating options on college campuses. Furthermore, there is a lack of research on the effectiveness of suggestive selling in foodservice operations. Therefore, the purpose of this study was to compare and analyze marketing techniques for promoting and selling better menu options, labeled “Saluki Select”, at the Southern Illinois University Carbondale (SIUC) Student Center. This study will address the following research questions:

1. How does social marketing influence customer awareness of Saluki Select foods from two food concepts at the SIUC Student Center?
2. Which treatment period: control, signage, or suggestive selling, is most effective in influencing college students’ purchases of Saluki Select foods at SIUC Student Center?
3. What food concept in the SIUC Student Center is most influenced by the marketing periods at the SIUC Student Center?

Terminology

Social marketing – Marketing designed to influence the behavior of a target audience

Social marketing. (2010). *MarketingPower.com.* American Marketing Association. Retrieved August 15, 2010, from http://www.marketingpower.com/_layouts/Dictionary.aspx

Suggestive Selling – Act of selling a customer the original item he or she intended to buy, plus additional items that may complement the original item

Kizer, R., and Bender, G. (2007) Suggestive Selling Equals Success. *National School Supply and Equipment Association Essentials.* Retrieved from May 23, 2010 from http://www.nssea.org/kbdatabase/Improving%20Retail%20Sales/Suggestive%20Selling%20Equals%20Success%20-%20MJ07.pdf

Quick-service restaurant – A restaurant characterized by its minimal service, limited menu, and food that is quickly served after ordering

Quick service restaurant. (2010). *MarketingPower.com.* American Marketing Association. Retrieved August 15, 2010, from http://www.marketingpower.com/_layouts/Dictionary.aspx

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this study was to discover whether marketing effects the purchases of Saluki Select foods in the SIUC Student Center and to discover which marketing strategy was the most effective in influencing college students' purchases of Saluki Select foods. The research study examined differences in sales between two food concepts.

The articles chosen for this literature review were found using Academic Search Premier, Agricola, CAB Abstracts, CINAHL Plus with Full Text, Communication & Mass Media Complete, Consumer Health Complete, EBSCOhost, ERIC, Health Source – Consumer Edition, Health Source: Nursing/Academic Edition, MEDLINE, PsycINFO, PsycCRITIQUES, and PubMed. The search terms used were: "College students and eating habits, the influence of marketing of food labels on a college campus, marketing healthy food to college students, food labels, nutrition labels and college students, nutrition and college students, menu labeling, verbal prompts, suggestive selling and food choices, and suggestive selling on college campuses."

College Students and Eating Habits

It is well known that obesity in the United States is on the rise in people at every age. A body mass index (BMI) of 25 or higher indicates an overweight status in adults and young adults. Consequently, obesity in young people and

adults is defined as having a BMI of 30 or higher (Ogden, Carroll, Curtin, McDowell, Tabak, and Flegal, 2006).

Numerous studies have shown that college students often have poor eating habits **(**Driskell, 2006; Boyle and LaRose, 2008; Strong, Parks, Anderson, Winett, and Davy, 2008; Kandiah, Yake, Jones, and Meyer 2005; Jackson, Berry, and Kennedy, 2009, Kolodinsky, Harvey-Berino, Berlin, Johnson, and Reynolds, 2007; Nelson and Story, 2009; Driskell, Kim, and Goebel, 2005; Driskell, Meckna, and Scales, 2006; and Morse and Driskell, 2009)**.** College students are especially vulnerable to weight gain, due to overconsumption of readily accessible foods and the stress of academic pressures (Strong, Parks, Anderson, Winett, and Davy, 2008). As Kandiah, Yake, Jones, and Meyer (2005) found, college women engage in overeating and consuming comfort foods when stressed. Stress plays a contributing role in food overconsumption. Eighty percent of the subjects of this study claimed they typically try to eat healthy, but when under stress, only 34% reported eating healthy. In any case, food selection is an important behavior that can impact an individual's health and longevity, as well as increasing or decreasing, based on the choices, the resulting health costs to society.

Jackson, Berry, and Kennedy (2009) discovered that poor eating habits tend to cluster. For example, an increase of food purchases on campus and a decrease in packed lunches are significantly related to an increase in fast food consumption. The study by Jackson and colleagues (2009) also found that most college students do not consume enough water per day and students dining at

campus student centers consume more caffeinated beverages that decrease hydration.

As previous research has shown, college students are exposed daily to foods high in calories, fat, and sugar, and low in nutrients. Furthermore, students are not exposed to nutrition education often enough. Results from a study using the Dietary Guidelines for Americans 2005 indicated that college students made more healthful choices when nutrition knowledge was present. One third of the students in this study reported eating the recommended amounts of the five major food groups. Students who consumed greater than the recommended amount of fruit had greater food knowledge than those who reported eating less than the recommended amount (Kolodinsky, Harvey-Berino, Berlin, Johnson, and Reynolds, 2007). Moreover, few adults and young adults meet dietary guidelines for optimal nutrition. Increasingly, good food choices can be difficult for students living on campus. One Midwestern university found that college students keep a wide variety of unhealthy foods and beverages in their dorm rooms that are purchased by their parents (Nelson and Story, 2009). On average, the students from this survey had 22,888 calories in their dorm rooms. This could lead to rapid weight gain and poor eating habits that many college students face (Nelson, et al., 2009).

In addition, college students are prime targets for quick, convenient and ready-prepared foods and many students frequently eat at fast-food restaurants. Results from a college research study indicated that 95.1% of lower-level undergraduates and 91.9% of upper-level undergraduates reported eating meals

at fast-food restaurants six to eight times a week (Driskell, Kim, and Goebel, 2005). According to a similar study, 84% of men and 58% of women at a Midwestern university reported eating at fast food restaurants for lunch at least once a week. Eighty-two percent of students surveyed (n=226) ate dinner at a fast food restaurant at least once a week (Driskell, Meckna, and Scales 2006). Morse and Driskell (2009) found that female college students reported eating at fast-food restaurants because they were “inexpensive and economical”. Both men and women reported eating at fast-food restaurants because of “limited time” and they “enjoyed the taste”. Seventy-two percent of participants chose “fast and convenient” as their favorite aspect of fast-food restaurants.

Use of Nutrition Labels

In 1990, Congress mandated a redesign of food labels. The Nutrition Labeling and Education Act of 1990 were designed to provide consistent and reliable nutrition information, which as a result, would promote healthy food choices. Labeling legislation required these labels to include total fat, saturated fat, and cholesterol. According to Neuhouser, Kristal, and Patterson (1999) there is a strong relationship between health beliefs and nutrition label use. Those interested in health read the nutrition labels on food packages to make foods purchasing decisions. Consequently, Neuhouser and colleagues (1999) observed that people who examined nutrition labels in their daily life decreased their fat intake.

Additionally, consumers have difficulty in estimating total calories, fat, and sodium content of foods at restaurants (Burton, Creyer, Kees, and Huggins,

2006). On average, participants underestimated less healthy foods by more than 600 calories. In a year's time, this leads to an extra 30,000 calories and an approximate weight gain of nine pounds a year. This study also examined the effects of calorie and nutrition information on menus. Consumers' purchase intentions and choices decreased when given the nutrition information.

Kreuter, Brennan, Scharff, and Lukwago (1997) also discovered that participants whose diets were lower in fat and higher in fruits and vegetables were more likely to read nutrition labels most or all of the time. Participants who had diets lower in fat were twice as likely to report labels influencing their food purchasing decisions.

A study conducted at a large university in Texas found that a total of 85.4% of college participants reported to look at nutrition labels. Of this percentage, only 15.2% of college students reported using nutrition labels "all the time"; 27.2% claimed to use nutritional labels "often"; and 43% "sometimes". The remaining 14.6% reported they "never" used nutrition labels in purchasing decisions (Raspberry, Chaney, Housman, Misra, and Miller, 2007). Furthermore, Lin, Lee, and Yen (2004) discovered that people who consume more total fat, saturated fat, and cholesterol are less likely to seek out information on nutrition labels than others. The study suggests the need for more consumer education on how to interpret food labels.

Nutrition information is primarily given to young adults, therefore they need to know how to use the information they are given. Results from a research study by Misra (2007) showed that overall students had a positive attitude and agreed

that the food label is a useful tool for consumers (Misra, 2007). As Kolodinsky, Green, Michahelles, and Harvey-Berino (2008) noted, college students from a northeastern university were interested in nutrition labels and used them to make food purchasing decisions. Nutrition labels appear to be of interest to some college students (Kolodinsky, et. al, 2008). Additionally, Driskell, Schnake, and Detter (2008) discovered that 58.5% of the 205 college students surveyed at a dining hall used a nutrition label system, “Nutrition Bytes”, to make meal decisions. College students could benefit from the information provided by food labels in student centers and dining halls.

Marketing Strategies for Health and Nutrition

Social marketing may be an effective way to increase awareness of the health benefits of fruits and vegetables (Shive and Morris, 2006). A study by Shive and colleagues (2006) implemented a social marketing campaign to improve knowledge, attitudes, and fruit intake among college students at a community college. The researchers exposed the college students to fruit fairs to distribute fresh fruit, fruit juices, and information about the importance of consuming enough fruit. The results showed a significant increase in fruit consumption. The researchers concluded that fruit and vegetable intake can be achieved by a community-based social marketing approach (Shive et al., 2006).

In a study to seek consumer’s views on food labels and point-of-purchase nutrition information, Lando and Labiner-Wolfe (2006) discovered that participants were interested in having nutrition information available and also believed that healthier food option icons would be helpful to them. The

participants also felt it would be beneficial to them if menus had a separate healthy section.

Conklin, Cranage, and Lambert (2005) designed a survey to ask college students if they used nutrition labels and point-of-sale (POS) information in dining halls while purchasing food items and why. A significant positive relationship was found between their exposure of POS nutrition information and their purchase of healthier food items. Conklin et al. (2005) concluded that students' exposure to nutrition information at POS could have a positive effect on college students' eating behaviors. An additional study by Buscher, Martin, and Crocker (2001) found that nutrition information at POS may promote the sale of healthy foods among college students. Fruit and vegetable baskets along with yogurt and salads were promoted by using POS health messages throughout the cafeteria of a large university. Results showed an increase in yogurt and whole fruit sales (Buscher, et al., 2001). Additionally, over 20% of students became aware of healthful food choices in dining halls after a point-of-purchase intervention (Peterson, Duncan, Null, Roth, and Gill, 2010). If college students altered their eating habits to consume more healthful foods and maintain a healthy weight, their general health could improve and their risk for nutrition-related diseases may decrease.

Providing calorie information at POS may assist college students in making healthier food choices at fast-food restaurants. As part of a psychology study, Gerund (2009) exposed participants to fast-food menus that either had calorie information or did not. Results showed that students chose healthier

options when calorie information was displayed on the menu, with more women than men choosing significantly lower calorie meals (Gerend, 2009).

As Roberto, Larsen, Agnew, Baik, and Brownell (2010) found, menu labeling does have an impact on food choices and intake. Participants in this study were randomly divided into two groups; one group was given menus without calorie labels and the second group was give menus with calories listed for each food item. Participants who were exposed to the calorie labels consumed 14% less calories than their counterpart. Study results indicated that calorie information on restaurant menus would reduce the total amount of calories people ordered and consumed in one meal. In addition, the calorie labels improved participants' ability to estimate their calorie intake and affected their food consumption for the entire day (Roberto et al., 2001). Similarly, Albright, Flora, and Fortmann (1990) found that by placing red hearts next to low-fat and low-cholesterol food items, restaurant sales of those particular items increased. This study supports other research studies that nutrition information can significantly influence the choice of healthier food items. Furthermore, Pulos and Leng (2010) also discovered that, when given nutrition information on restaurant menus, there was a reduction in calories, fat, and sodium from menu items customers purchased. The researchers also noted that placement of nutrition information is crucial to a customer's purchasing decision. They found that 30% of customers noticed nutrition information on Subway's menu board, but in their study, 70% of the customers noticed the information located on the menu (Pulos, et al., 2010).

Cinciripini (1984) found that calorie information placed besides a menu item was more effective than a healthy food icon placed next to the same menu items. Students' food choices were influenced both by calorie labels on menus and a combination of healthy food icons and an incentive program. During the calorie information period, large menu signs were placed in front of the cafeterias with calorie information of each menu item. These signs remained essentially the same, except for the removal of calorie information and addition of green triangles to promote healthier eating during the labeling period.

Furthermore, the study implemented a "Token System" in which cash incentives were given to customers who purchased food items with the healthy food icon. This system influenced the most behavior changes in the customers. The "Token System" was based on the labeling period and was noted on the signs with the food icons. Leaflets were also distributed to explain this program. Customers were given a card that for every green triangle food purchased, a stamp was placed on the back. For every 10 stamps, a $1.00 cash rebate was given to the customer. This system encouraged customers to choose the healthier options because they knew they were going to receive some type of benefit (Cinciripini, 1984).

As Kuo, Jarosz, Simon, and Fielding (2009) found, mandated menu labeling at fast food restaurants and other large chain restaurants could reduce population weight gain and attack the obesity epidemic. The researchers developed a health impact assessment and simulation model, using published and unpublished demographic and restaurant data between 1997 and 2005 and

obesity estimations to determine the potential impact of menu labeling on obesity. By making modest behavior changes, aided with menu labeling, population weight gain can be prevented.

Suggestive selling can be an important tool for businesses to utilize in order to increase the sale of an item. Furthermore, using suggestive selling to promote healthy food items could be an opportunity to market and improve societal food choices. To date, there are two research articles that examine suggestive selling in a restaurant setting. One study examining the effectiveness of suggesting selling found that this form of social marketing can increase food sales (Ebster, Wagner, and Valis, 2006). The researchers wanted to use verbal prompts to increase the sale of side items on a restaurant menu. Employees were instructed to ask customers, “Would you like potato salad with that?” Sales of side dishes increased 17% when employees utilized suggestive selling (Ebster, et al., 2006). Additionally, french fry purchases at a large fast food franchise increased by 29% when customers were asked if they would like to add this item to their meal (Martinko, White, and Hassell 1989).

Summary

The growing rate of overweight and obese individuals in the US indicates the need for more awareness of nutrition information on foodservice menus. The previous studies indicate the potential marketing has to influence customer food choices. Because college students are vulnerable to dining at fast food restaurants regularly, there is a need for them to be more informed or aware about healthier food options, which could help improve their lifestyle.

Furthermore, there is a lack of research which seeks to understand how suggestive selling and verbal prompts may affect sales of healthy food items. Marketing strategies could be beneficial in relaying nutrition messages to college students on campus. If a specific marketing tactic was found to be most effective in reaching these students, targeted marketing programs could be implemented on college campuses throughout the US.

CHAPTER 3

METHODS

Background of Saluki Select Healthy Eating Program

The Saluki Select Healthy Eating Program was first introduced in the residence dining halls in 2008 and was implemented in the fall 2009 semester in the SIUC Student Center. The purpose of the Saluki Select Healthy Eating Program was to assist college students dining at the Student Center in making better food selections. The SIUC Student Center food court is operated by Chartwell's, a contract foodservice company for colleges and universities. The following guidelines were developed by Chartwell's, and used when identifying the Saluki Select items: Food items must contain less than 350 calories, 35% or less of calories derived from fat, and have 600 mg of sodium or less. A "Saluki Silver" logo, (a silver Saluki dog paw print), was placed next to the food item that indicated the healthiest food alternative on the menu. A "Saluki Select" logo, (a maroon Saluki dog paw print), was placed next to food items that indicated the next best food choice on the menu. To further help customers determine what healthier options to choose, online information was available through the SIUC Wellness Center's website.

Population

This study was conducted at Southern Illinois University Carbondale with a total student population of 20,350. The university is ethnically diverse with 26.5% belonging to minority groups (African American, Hispanic, Native American, Asian American and/or Pacific Islander), while 73.5% are caucasian.

As of the Fall 2009, there were 3,921 full and part time on-campus employees. Employees included faculty, managerial, professional non-faculty, secretarial/clerical, technical and para-professional, skilled craft, and service employees. The SIUC Student Center is accessible to all students and staff, as well as the public.

Research Design

An experimental design was employed to measure success of marketing techniques of the sales of Saluki Select menu items in the SIUC Student Center. The research design included one control period and two treatment periods. An experimental design manipulates at least one independent variable (Kerlinger & Lee, 2000). Menu labeling and suggestive selling were the two marketing treatments employed by this study. The control period consisted of two weeks in September 2009 in which no marketing was conducted on the Saluki Select foods. Following the control period, two treatments periods were administered: (1) the first treatment period utilized menu labeling of healthy food options at eateries (October 9, 2009-October 19, 2009), (2) the second treatment period trained employees to use suggestive selling to promote the healthy food options (March 15, 2010-March 29, 2010). Sales receipts were obtained two weeks following the three treatment periods from selected food concepts which sold Saluki Select menu items

A “concept” is the term used for food vendors in the Student Center. Both Concept A and Concept B were two popular brand restaurants. These two restaurants were chosen because they were considered quick service

restaurants and attracted students who were “on the go”. Concept A included sub sandwiches and Concept B included salads, grilled chicken sandwiches, and grilled chicken club sandwiches.

Examples of the “Saluki Select” food items from Concept A included a Ham and Swiss 6-inch wheat sub sandwich, a 6-inch Roast Beef and Provolone Sandwich or a 6-inch Grilled Chicken Teriyaki sub sandwich. Food items from Concept B included a Chargrilled Chicken Salad, the Chargrilled Chicken Sandwich, and the Deluxe Grilled Chicken Sandwich with lettuce and tomato. .

During the first treatment period in mid-September 2009, signage was placed at every food concept in the SIUC Student Center to inform consumers about the Saluki Select Healthy Eating Program. The signs included information on the distinction between the maroon paw prints and silver paw prints. Two weeks following the initial treatment (October 2009), sales receipts were obtained from the two food concepts.

The second treatment period was implemented beginning in January 2010. The research team trained employees at each food concept to use suggestive selling to promote the healthier eating options (Appendix A). The research team informed the employees what were the Saluki Select foods, the importance of healthier eating options, and its impact on sales. Handouts with additional information about the Saluki Select Healthy Eating Program were given to the employees (Appendix B). Each employee was trained to ask customers at the register, “Have you tried any of the Saluki Select foods?” If the customer did not know what the Saluki Select food items were, the employees

would inform the customer that these foods were the “better options” on the menus. Employees were instructed to ask every customer between the hours of 11:00 a.m. and 1:00 p.m. for a period of two weeks in February 2010. To ensure consistency, sales receipts were collected in March, two weeks after the treatment period.

To encourage employees to participate in the study, a competition was conducted for highest sales, and buttons were made for each employee. The buttons displayed the maroon paw print logo and the phrase “Ask me about Saluki Select!” The food concept that produced the highest percentage increase of Saluki Select food sales won the competition. Each employee who worked at the winning food concept during the lunch period received a $20.00 bonus. A sign reminding the employees about the competition was placed next to the employee time clock (Appendix C).

A survey instrument was developed to collect information on the demographics of individuals dining at the university student center, before and after the treatment periods. The survey contained a total of seven questions (Appendix D). A research team of volunteers collected the demographic data every Monday, Wednesday, and Friday for two weeks between the hours of 11:00 a.m. and 1:00 p.m prior to the first treatment period. The research volunteers were undergraduate students in the Human Nutrition and Dietetics program and were contacted through the Student Nutrition Academic Council electronic mail database. The researchers introduced themselves and the survey to customers, asking them to participate in a graduate research study. To ensure

a randomized survey, each volunteer was placed at a food concept and asked every fourth customer to complete the survey. Human subjects' approval by Southern Illinois University was obtained prior to conducting the survey and permission to conduct research was obtained from the Director of Dining Services and the Event Coordinator at the Student Center.

It is important to note that there were additional food concepts in the Student Center at the time of the research study. These additional food concepts included: a leading hamburger retailer, a leading coffee retailer, and three proprietary concepts developed by the operating contract company (Freshens, Chef Yan Can Cook, and the Market Place). The leading fast food hamburger retailer was not included in this study because it was an independent concept and was not managed by Chartwell's, like the other food concepts. The other food concepts were not included because of changes made to the menu which made it difficult to distinguish the Saluki Select items from the regular menu items. In addition, 12" sub sandwiches from Concept A were initially included in the sales receipts as Saluki Select food items. Although these items were still considered healthier than other menu options, they were discarded because the calorie, fat, and sodium content doubled from the 6" sub sandwich and did not meet the necessary dietary requirements.

Descriptive statistics were determined using the Statistical Package for Social Sciences (SPSS) version 16.0 to describe the random sample of customers in terms of age, ethnicity, gender, university and class status, on- or off-campus living, and awareness of Saluki Select foods. A repeated measures t-

test was used to compare the results from customers who were or were not aware of Saluki Select foods, before and after the second treatment period. A t-test is a statistical tool to assess whether a significant relationship exists between the means of two groups (Trochim, 2006). The Analysis of Variance (ANOVA) was used to compare the results from the control period and the two treatment periods. ANOVA is a statistical method to assess the means of two or more groups and to determine if they are statistically different or not (Trochim, 2006). The mean sales of the two food concepts were compared using t-tests. Statistical significance was determined at the $p<0.05$ level. Statistics determined the relationship and strength between different marketing techniques and healthy food options during three separate time periods at the SIUC Student Center.

CHAPTER 4

RESULTS

Customer Demographics

Table 4.1 represents the demographic characteristics of individuals dining at the SIUC Student Center. The table is divided by pre and post survey results. Averages of demographic characteristics will be presented for both pre and post results, as a whole. Significant differences of pre and post survey results will be addressed independently. A total of 400 surveys depicting demographics, university status, and healthy menu usage were collected a week before and a week after the treatment periods.

In terms of age, the majority of customers were between the ages of 18 and 24 (61.5%). There were slightly more males than females, (52.25% and 47.75% respectively). As can be seen in table 4.1, ethnic composition for both pre and post-marketing were primarily Caucasian, (64.75%) and African-American (18.5%). Customers dining at the Student Center were predominately students (85.5%), and of those students the class breakdown was: freshmen (11.5%), sophomore (10.25%), junior (20.75%), senior (23%), graduate (17.25%), and doctorate (2.75%) status. The majority of students dining at the Student Center lived off campus (69%) compared to those who live on campus (16.5%). Every customer surveyed was asked if they lived on or off campus, if they were not a student (14.5%), they did not live on campus. As presented in Table 4.1, pre-survey results for those who had heard of Saluki Select items was

13%. After the second treatment period, 36.5% of those surveyed had heard of the healthier food options.

Objective 1

The first research objective was to determine how social marketing influenced awareness of Saluki Select foods at two food concepts in the SIUC Student Center. Table 4.2 displays the means of customers who were aware of Saluki Select foods before and after the second treatment period. As shown in the table, the means for before and after were 0.13 and 0.37, respectively. A repeated measures t-test revealed the results to be statistically significant ($t=-5.645$, $p<0.001$), indicating that this form of marketing is effective in influencing awareness of healthy foods.

Table 4.1 Demographic Characteristics of Customers Patronizing the Student Center

Demographics	Pre Marketing		Post Marketing	
Age	**Frequency**	**Percent**	**Frequency**	**Percent**
18-24	121	60.5%	125	62.5%
25-31	41	20.5%	31	15.5%
32-45	24	12.0%	27	13.5%
46-59	11	11.0%	14	7.0%
60+	3	4.5%	3	1.5%
Gender				
Male	101	50.5%	108	54.0%
Female	99	49.5%	92	46.0%
Ethnicity				
Caucasian	130	65.0%	129	64.5%
African-American	38	19.0%	36	18.0%
American Indian	2	1.0%	4	2.0%
Alaskan Native	15	7.5%	2	1.0%
Asian Pacific Islander	9	4.5%	14	7.0%
Hispanic	6	3.0%	11	5.5%
Other	0	0.0%	4	2.0%
Affiliation				
Student	174	87.0%	168	84.0%
Faculty	11	5.5%	13	6.5%
Staff	12	6.0%	17	8.5%
No Affiliation	3	1.5%	2	1.0%
Student Status*				
Freshman	28	14.0%	18	9.0%
Sophomore	19	9.5%	22	11.0%
Junior	45	22.5%	38	19.0%
Senior	40	20.0%	52	26.0%
Graduate	37	18.5%	32	16.0%
PhD	5	2.5%	6	3.0%
Live on Campus*				
Yes	38	19	28	14
No	136	68	140	70
Heard of Saluki Select				
Yes	26	13.0%	73	36.5%
No	174	87.0%	127	63.5%

*Students Only

Table 4.2. Analysis of Customers Who Were Aware of Saluki Select Foods, Before and After Second Treatment Period

Heard	Pre	Post	*t* value	Significance
Mean	0.13	0.37	-5.645	0.001
Yes	26	73		
No	174	127		

*Categorical variables where Yes=1 and No=0

Objective 2

The second research objective was to identify which treatment period was most effective in influencing college students' purchases of Saluki Select foods at the SIUC Student Center. Table 4.3 depicts the number of Saluki Select food items sold and net sales for the two food concepts during the control period and two treatment periods. As shown in Table 4.3, all of Saluki Select food items from Concept A increased in either the first or second treatment compared to the control period, except for one item in the second treatment period, which was the 6-inch turkey and provolone sub sandwich. Only one item from Concept B increased in both treatment periods, which was the chargrilled chicken sandwich. The overall means of Saluki Select food items from both concepts showed an increase in sales in both treatment periods compared to the control period, where no marketing took place. The overall combined means of both concepts for the control period and the first and second treatment period were: 61.8, 73, and 69.2, respectively. The overall means of net sales for these three periods were: $268.71, $315.15, and $308.08, respectively.

Table 4.3. Saluki Select Items Purchased and Net Sales During Three Marketing Periods

	Treatment (Control)		***Treatment 2***		***Treatment 3***	
Food Items	#Sold	$Net Sales	#Sold	$Net Sales	#Sold	$Net Sales
Concept A						
Roast Beef & Provolone 6"	32	$134.08	79	$331.01	65	$272.35
Club 6"	36	$150.84	36	$150.84	44	$184.36
Ham & Swiss 6"	11	$46.09	12	$50.28	14	$58.66
Turkey & Provolone 6"	201	$842.19	214	$896.66	174	$729.06
Super Stacked Trio 6"	13	$84.37	13	$84.37	25	$162.25
Grilled Chicken Teriyaki 6"	76	$326.04	116	$497.64	110	$471.90
Blimpie Best 6"	27	$113.13	42	$175.98	39	$163.41
Concept B						
Chargrilled Chicken Salad	83	$472.27	78	$443.82	81	$498.15
Chargrilled Chicken Sandwich	133	$490.77	135	$498.15	138	$531.30
Chargrilled Club Sandwich	6	$27.30	5	$22.75	2	$9.38
Overall Means	**61.8**	**$268.71**	**73**	**$315.15**	**69.2**	**$308.08**

Although the second treatment period produced the highest means, an ANOVA test revealed there were no statistically significant differences during the three treatment periods ($p<0.92$). Looking at the overall means, signage appears to have been more effective than suggestive selling. The differences between the means were not significant. Therefore results from this study indicate that the individual social marketing techniques had little effect on the sales of Saluki Select menu items, but as a whole awareness of Saluki Select food items was more prevalent as found in research objective 1. These results are shown in Table 4.4.

Table 4.4. Saluki Select Sales of Three Treatment Periods in the SIUC Student Center

	Sum of Squares	df	Mean Square	F	Significance
Between Groups	648.8	2	324.4	0.84	0.92
Within Groups	104449.2	27	3868.489		
Total	105098	29			

Objective 3

The third research objective was to compare the marketing results between the two restaurant brands, Concept A and Concept B, in the SIUC Student Center, and to determine which food concept was most influenced by the treatment periods. Results from a t-test are shown in Table 4.5. Results indicated there was no statistically significant difference between the two means of food items of the two concepts in the SIUC Student Center (p-value < 0.752). Social marketing in the form of signage or suggestive selling did not differ between the two food concepts.

Table 4.5. Comparison of Saluki Select Food Items at Two Food Concepts in the SIUC Student Center

	N	Mean	Std. Deviation	Std. Error Mean	*t* value	Significance
Concept A	21	65.67	62.732	13.689	-0.319	0.752
Concept B	9	73.44	57.02	19.007		

CHAPTER 5

DISCUSSION

The purpose of this study was to compare and analyze marketing techniques for promoting and selling better menu options, labeled “Saluki Select”, at the Southern Illinois University Carbondale (SIUC) Student Center. It is widely known that college students have poor eating habits. College students are attracted to quick, convenient and inexpensive fast food restaurants (Driskell, Kim, and Goebel, 2005). Although there have been increasingly more nutrition information available to consumers of fast food restaurants, there has been a lack of research performed on this issue regarding social marketing efforts on healthy food options and college students. Social marketing can be an effective way to increase sales of a product. Menu labeling and suggestive selling are two forms of social marketing that are becoming more popular in the restaurant field. This study aimed to meet the following research objectives:

1. To determine the influence of social marketing on customer awareness of Saluki Select food items from two eating concepts at the SIUC Student Center.
2. To identify which treatment period: control, signage or suggestive selling, had the most effect influencing customer purchases of Saluki Select foods at SIUC Student Center.
3. To identify which food concept in the SIUC Student Center was most influenced by the marketing periods.

The research study included one control period and two treatment periods conducted at the SIUC Student Center. Menu labeling and suggestive selling were the two social marketing treatments employed by this study. The control period consisted of two weeks in September 2009 in which no marketing was conducted on the Saluki Select foods. Following the control period, two treatments periods were administered: (1) the first treatment period utilized menu labeling of healthy food options at eateries (October 9, 2009-October 19, 2009), (2) the second treatment period trained employees to use suggestive selling to promote the healthy food options (March 15, 2010-March 29, 2010). Sales receipts were obtained two weeks following the three treatment periods from selected food concepts which sold Saluki Select menu items

Objective 1

Results from a repeated measures t-test indicated that awareness of Saluki Select foods significantly increased after the second treatment period, which included suggestive selling. During both treatment periods, signage was also displayed throughout the Student Center. Poster campaigns can be very effective at increasing awareness to college students as Shive and Morris (2006) found in their Energize Your Life! Campaign. Posters were noticed by 72.3% of the 1,367 students surveyed. These results proved to be very important, so much in fact, that the food services department changed its policy to offer fruit in a vending machine on campus and fruit cups as substitutes for fries in the dining hall. Increased awareness of a healthier lifestyle choice can impact students' purchasing decisions so greatly that a policy change may be needed.

Additionally, findings from our study relate to the findings from a study by Peterson, Duncan, Null, Roth, and Gill (2010) in which a point-of-purchase intervention of healthy food items increased awareness by over 20%. An increase in awareness of healthy food items provides the potential for consumption of healthier foods and thus promoting a healthier lifestyle.

Findings from our study also correspond with results from a study by Bass and Keathley (2008), where researchers examined the effectiveness of a social norms marketing campaign at a university. In their study, awareness of posters that aimed at preventing alcohol related automobile accidents increased by 51%. The marketing campaign in this study reflects that of our study, with the emphasis to increase awareness of a lifestyle behavioral change. These results show the importance of poster campaigns in promoting healthier lifestyle behaviors that can last beyond college and into adulthood (Bass, et. al., 2008).

Objective 2

An ANOVA test revealed there were no statistically significant differences during the three treatment periods. However, the overall means for the two treatment periods showed that healthier food items did increase during the two treatment periods. Results from a study by Freedman and Connors (2010) had similar results as our study, although point-of-purchase sales of healthier food items were not statistically significant, the sales of these healthy food items increased (Freedman, et. al., 2010).

Several studies have shown that nutrition labels improve menu selections, in which our study aimed to accomplish. A nutrition labeling system, used to

make meal decisions, was utilized by 58.5% of college students at a college dining hall (Driskell, et al., 2008). Students' purchases of yogurt and whole fruit sales also increased due to a point-of-sale nutrition labeling marketing approach (Buscher, et al., 2001). Another study, which was similar to ours, found that healthy symbols placed next to healthy menu items increased sales of these items (Albright, et al., 1990).

As mentioned before, the signs for Saluki Select menu items included vague information about better food options. Either a silver or maroon "paw print" was placed next to an item that was determined as "healthy". Customers from the current study may have been more interested in selecting healthier food options, if calorie counts of food items were available on these signs. According to Roberto et. al., (2010) participants in their study were more likely to order and consume fewer calories when given a menu with calorie labels, as compared to menus with no calorie labels. Participants were also more likely to not order extra food items such as dessert, when the calorie labels were present. Additionally, college students chose healthier options on menu items when calorie information was present on the menu (Gerund, 2009, Pulos, et al, 2010).

A study by Cinciripini (1984) found that calorie information placed besides a menu item was more effective than a healthy food icon placed next to the same menu items in a university cafeteria. Students' food choices were influenced both by calorie labels on menus and a combination of healthy food icons, as well as an incentive program. Calorie counts may have an impact on what people order, consume, and their eating habits for the rest of the day. This could lead to less

overconsumption of unhealthy foods and lead to a healthier lifestyle. In our study, calorie counts may have been more effective in students' purchasing decisions.

In the current study, only signs were placed near the food concepts. Purchase selections may have been influenced with more handouts and leaflets placed throughout the Student Center. Participants from a different study suggested possible ways to provide point-of-purchase nutrition information to students (Lando and Labiner-Wolfe, 2006). They suggested incorporating food wrappers, tray liners, brochures, and take-away bags. Furthermore, Driskell, Schnake, and Detter (2008) discovered that 40.7% of college women would like to see nutrition information and labels posted online daily for dining hall food selections. The researchers also found that posters, displays, and online information regarding nutrition labels should include messages about the connection between nutrition, diet, and health to better help dining hall patrons understand the importance of their food choices (Driskell, et al., 2008). Even though awareness of the Saluki Select Program increased significantly, additional means of promoting the program may have resulted in an even higher awareness rate.

Placement of nutrition information at each food concept may have an impact on purchasing decisions of customers. As Lando et al. (2006) discovered, participants liked the idea of placing healthier menu options in a separate section of a menu or menu board. This allows the customer to easily identify foods that are healthier for them. With regard to healthier option symbols, participants felt they would find the symbol more valuable if it were to have an understandable

and uniform definition (Lando, et al., 2006). Likewise, as Pulos and Leng (2010) discovered, the closer the nutrition information is to where the customer can see it, the more likely they will see it and use it to influence their purchasing decision.

Previous studies which addressed suggestive selling were promoting menu items other than healthy menu options in order to increase sales. Ebster et al., (2005) discovered a 17% increase of side dishes when restaurant customers were asked if they would like to add a certain food item to their order. In the present study, suggestive selling was used to promote healthier menu selections to the benefit of the consumer rather than additional items to increase sales receipts. Findings from our study may indicate it is difficult to suggestively sell healthy items to the college consumer as opposed to simply additional tasty side items. Harnack and colleagues (2008) suggested appealing to the consumers' sense of taste rather than their sense of health. Future research incorporating suggestive selling to promote healthy menu options could emphasize the improved taste of the food item instead of the improved health benefits.

Objective 3

Results from a t-test indicated there was no statistically significant difference between the two means of food items of the two concepts in the SIUC Student Center. Possible explanations for this is that the two concepts were both popular quick-service sandwich restaurants and customers may have an idea of what they are going to order before they arrive. Harnack et al. (2008) found that even calorie labels had little effect on purchasing decisions made by restaurant patrons because they regularly dined at these restaurants and already knew

what they wanted to order. Restaurants should consider placing more emphasis on nutrition information at point-of-purchase if they are trying to sell healthier menu items.

Conclusion

In conclusion, this study found that social marketing was influential in increasing awareness of better food options at the SIUC Student Center. After the suggestive selling period, students were more aware of the healthy eating program on campus. Because of increased awareness, students know they have an option to eat healthier foods. This demonstrates a shift from precontemplation to contemplation in the stages of change model. During precontemplation, people are not even thinking of making a change, but during contemplation they become aware of a problem but are not ready to change (Gold, 2006). Choosing healthier food options on campus can help students obtain a healthier lifestyle and reduce their chances of obesity-related diseases. Additionally, these healthful eating practices could help students maintain a healthier lifestyle beyond college.

Although there was an increase in sales during the first treatment period, the two treatment periods did not produce statistically significant results. Although not statistically significant, these findings are clinically significant because customers purchased more Saluki Select food items during the two treatment periods compared to the control period. This shows that students were willing to choose the healthier options.

Lastly, there was no statistical difference between the two types of food concepts. Signage and suggestive selling did not differ between the two food

concepts, implicating the need for further research on what influences the sales of healthy food items.

The results of this study may be of use to university wellness centers, foodservice operations on and off campus, and even fast food restaurants and full service restaurants in the planning and implementation of marketing strategies in promoting healthier food choices. Additionally, health professionals and marketing companies may be interested in this type of research to discover more effective means in influencing consumers to purchase healthier foods. This study can add to the current research on menu labeling by indicating that social marketing does, in fact, increase awareness of healthier food items.

Limitations and Future Research

A delimitation of this study would be outside marketing of either or both these food concepts. Because these two concepts are popular restaurant brands throughout the country, there is a possibility that an ongoing national marketing campaign took place at the time of the study without the research team knowing or having any control.

One limitation of this study was the short length of time the study was taken place. Measurement of each treatment period was two weeks after the treatment. Significant findings from Cinciripini (1984) resulted from eight weeks of each treatment period. If measurement of the treatment periods in our study were to be expanded over the course of a month or longer, people may be more inclined to try the healthier foods. Freedman, et al., (2010) also attributed their insignificant results to the study's short duration.

Another limitation to this study was is the number of food concepts included. Initially, five concepts were included in the Saluki Select healthy eating program, but three were excluded due to changes made to the menu which made it difficult to distinguish the Saluki Select items from the regular menu items. If it were possible to distinguish these items, additional comparisons could be made between the different concepts. Future studies may be interested in the effect of healthy food options at ethnically diverse food concepts.

Also a limitation of this study was the type and amount of foods on the menu. Most consumers have a predetermined notion of what food they are going to order when they are at a quick service food eatery. The foods on the two menus were mostly sandwiches. Additionally, the menus of the two concepts had few of the Saluki Select foods. Further research would want to strive to expand the number of food items.

During the second treatment period which included suggestive selling, signage was still placed at all of the food concepts in the Student Center. Technically the results could not be distinguished from either period. Future studies would want to remove all signage before conducting another marketing strategy because it was impossible to remove the influence of the first strategy in our study.

An uncontrollable limitation was supervision of the employees at the two food concepts. Because of conflicting schedules, the research team was unable to be present at all times during the second treatment period. Therefore, it is unknown if each employee remembered to participate in the study “competition”.

However, each time the employees clocked in, they were reminded of the “competition” by a poster next to the time clock. If the research team is unavailable to supervise at all times, volunteers could be present to assist.

Bibliography

Albright C., Flora, J., and Fortmann, S. (1990) Restaurant menu labeling: impact of nutrition information on entrée sales and patron attitudes. *Health Education Quarterly,* 17 (2), 157-167.

Bass, M., and Keathley, R. (2008) Effectiveness of a social norms marketing campaign on a university campus. *American Journal of Health Studies,* 23 (4), 173-178.

Boyle, J. R. and LaRose, N. R. (2008) Personal beliefs, the environment, and college students' exercise and eating behaviors. *American Journal of Heath Studies, 23,* 195-200.

Burton, S., Creyer, E., Kees, J., and Huggins, K. (2006) Attacking the obesity epidemic: the potential health benefits of providing nutrition information in restaurants. *American Journal of Public Health,* 96 (9), 1669-1675.

Buscher, L. A., Martin, K. A., Crocker, S. (2001) Point-of-purchase-messages framed in terms of cost, convenience, taste, and energy improve healthful snack selection in a college foodservice setting. *The Journal of the American Dietetic Association, 101,* 909-913.

Cinciripini, P. (1984) Changing food selections in a public cafeteria: An applied behavior analysis. *Behavior Modification,* 8, 520-537.

Conklin, M. T., Cranage, D. A., and Lambert, C. U. (2005) College students' use of point of selection nutrition information. *Topics in Clinical Nutrition, 20,* 97-108.

Conklin, M.T., Lambert, C.U., & Cranage, D.A. (2005). Nutrition information at point of selection could benefit college students. *Topics in Clinical Nutrition, 20* (2), 90-96.

Desai, M. N., Miller, W. C., Staples, B., and Bravender, T. (2008) Risk factors associated with overweight and obesity in college students. *Journal of American College, 57,* 109-114.

Driskell, J. A., Meckna, B. R., and Scales, N. E. (2006) Differences exist in the eating habits of university men and women at fast-food restaurants. *Nutrition Research, 26,* 524-530. Doi: 10.1016/j.nutres.2006.09.003.

Driskell, J. A., Meckna, B. R., and Scales, N. E. (2006) Differences exist in the eating habits of university men and women at fast-food restaurants. *Nutrition Research, 26,* 524-530. Doi: 10.1016/j.nutres.2006.09.003.

Driskell, J. A., Young-Nam, K., and Goebel, K. J. (2005) Few differences found in the typical eating and physical activity habits of lower-level and upper-level university students. *Journal of the American Dietetic Association, 105,* 798-801. Doi: 10.1016/j.jada.2005.02.004.

Driskell, J., Schnake, M., and Detter, H. (2008) Using nutrition labeling as a potential tool for changing eating habits of university dining. *Journal of the American Dietetic Association,* 108, 2071-2076.

Ebster, C., Wagner, U., and Valis, S. (2006) The effectiveness of verbal prompts on sales. *Journal of Retailing and Consumer Services,* 13, 169-176.

Freedman, M., and Connors, R. (2010) Point-of-purchase nutrition information influences food-purchasing behaviors of college students: a pilot study. *Journal of the American Dietetic Association,* 110, 1222-1226.

Gerund, M. (2009) Does calorie information promote lower calorie fast food choices among college students? *Journal of Adolescent Health,* 44, 84-86

Gold, M. (2010) Stages of change. Retrieved November 18, 2010 from http://psychcentral.com/lib/2006/stages-of-change/all/1/

Jackson, R. A., Berry, T. R., & Kennedy, M. D. (2009) The relationship between lifestyle and campus eating behaviours in male and female university students. *College Student Journal, 43.*

Kandiah, J., Yake, M., Jones, J., & Meyer, M. (2006) Stress influences appetite and comfort food preferences in college women. *Nutrition Research, 26,* 118-123. Doi: 10.1016/j.nutres.2005.11.010.

Kerlinger F., & Lee, H. (2000). Foundations of Behavioral Research. Fort Worth, TX: Hartcourt College Publishers.

Kizer, R., and Bender, G. (2007) Suggestive Selling Equals Success. *National School Supply and Equipment Association Essentials.* Retrieved from May 23, 2010 from http://www.nssea.org/kbdatabase/Improving%20Retail%20Sales/Suggestive%20Selling%20Equals%20Success%20-%20MJ07.pdf

Kolodinsky, J., Berino, J.R., Berlin, L., & Johnson, R. K. (2007) Knowledge of current dietary guidelines and food choice by college students: better eaters

have higher knowledge of dietary guidance. *Journal of the American Dietetic Association, 107*, 1409-1413. Doi: 10.1016/j.jada.2007.05.016.

Kolodinsky, J., Green, J., Michahelles, M., & Berino, J. R. (2008) The use of nutritional labels by college students in a food-court setting. *Journal of American College Health, 57,* 297-301.

Kreuter, M. W., Brennan, L. K., Scharff, D. P., and Lukwago, S. N. (1997) Do nutrition label readers eat healthier diets? Behavioral correlates of adults' use of food labels. *American Journal of Preventive Medicine, 13,* 277-283.

Krukowski, R., Harvey-Berino, J., Kolodinsky, J., Narsana, R., and Desisto, T. (2006) Consumers may not use or understand calorie labeling in restaurants. *Journal of the American Dietetic Association,* 106, 917-920.

Kuo, T., Jarosz, C., Simon, P., and Fielding, J. (2009) Menu labeling as a potential strategy for combating the obesity epidemic: A health impact assessment. *American Journal of Public Health,* 99 (9), 1680-1686.

Lando, A., and Labiner-Wolfe, J. (2006) Helping consumers make more healthful food choices: Consumer views on modifying food labels and providing point-of-purchase nutrition information at quick-service restaurants. *Journal of Nutrition Behavior,* 39, 157-163.

Lin, C. J., Lee, J., & Yen, S. T. (2004) Do dietary intakes affect search for nutrient information on food labels? *Social Science & Medicine, 59,* 1955-1967. Doi: 10.1016/j.socscimed.2004.02.030.

Marietta, A., Welshimer, K., and Anderson, S. (1999) Knowledge, attitudes, and behaviors of college students regarding the 1990 Nutrition Labeling Act food labels. *Journal of the American Dietetic Association*, 99, 445-449.

Martinko, M., White, J., and Hassell, B. (1989) An operant analysis of prompting in a sales environment. *Journal of Organizational Behavior Management,* 10 (1), 93-104.

Misra, J. (2007) Knowledge, attitudes, and label use among college students. *Journal of the American Dietetic Association, 107,* 2130-2134. Doi:10.1016/j.jada.2007.09.001.

Morse, K. L. and Driskell, J. A. (2009) Observed sex differences in fast-food consumption and nutrition self-assessments and beliefs of college students. *Nutrition Research, 29,* 173-179.

Nelson, M. C. & Story, M. Food environments in university dorms. (2009) *American Journal of Preventative Medicine, 36,* 523-526. Doi: 10.1016/j.amepre.2009.01.030.

Neuhouser, M. L., Kristal, A. R., & Patterson, R. E. (1999) Use of food nutrition labels is associated with lower fat intake. *Journal of the American Dietetic Association, 99,* 45-50, 53.

Ogden, C. L., Carroll, M. D., Curtin, L. R., McDowell, M. A, Tabak, C. J., and Flegal, K. M. (2006) Prevalence of overweight and obesity in the United States, 1999-2004. *Journal of the American Medical Association, 295,* 1549-1555.

Peterson, S., Duncan, D., Null, D., Roth, S., and Gill, L. (2010) Positive changes in perceptions and selections of healthful foods by college students after a

short-term point-of-purchase selection intervention at a dining hall. *Journal of American College Health,* 58 (5), 425-431.

Pulos, E., and Leng, K. (2010) Evaluation of a voluntary menu-labeling program in full-service restaurants. *American Journal of Public Health,* 100 (6), 1035-1039.

Raspberry, C., Chaney, B., Housman, J., Misra, R., and Miller, P. (2007) Determinants of nutrition label use among college students. *American Journal of Health Education.* 38 (2), 76-82.

Roberto, C., Larsen, P., Agnew, H., Baik, J., and Brownell K. (2010) Evaluating the impact of menu labeling on food choices. *American Journal of Public Health,* 100 (2), 312-318.

Satia, J., Galanko, J., and Siega-Riz, A. (2004). Eating at fast-food restaurants is associated with dietary intake, demographic, psychosocial and behavioural factors among African Americans in North Carolina. *Public Health Nutrition,* 7, 1089-1096.

Shive, S., and Morris, M., 2006. Evaluation of the Energize Your Life! Social marketing campaign pilot study to increase fruit intake among community college student. *Journal of American College Health,* 55 (1), 33-39.

Social marketing. (2010). *MarketingPower.com.* American Marketing Association. Retrieved August 15, 2010, from http://www.marketingpower.com/_layouts/Dictionary.aspx

Smith, S., Taylor, J., and Stephen, A. (1999) Use of food labels and beliefs about diet-disease relationships among university students. *Public Health Nutrition,* 3 (2), 175-182.

Strong, K., Parks, S., Anderson, E., Winett, R., and Davy, B. (2008). Weight gain prevention: identifying theory-based targets for health behavior change in young adults. *Journal of the American Dietetic Association,* 108, 1708-1715.

Trochim, W. (2006). Inferential Statistics. Retrieved August, 2, 2001, from http://www.socialresearchmethods.net/kb/statinf.php

Quick service restaurant. (2010). *MarketingPower.com.* American Marketing Association. Retrieved August 15, 2010, from http://www.marketingpower.com/_layouts/Dictionary.aspx

APPENDICES

APPENDIX A

Training Outline:

- Discuss a brief synopsis of my thesis project
    - Using suggestive selling to sell more of a product or idea
- Discuss what Saluki Select Healthy Eating Program is
    - Background and importance of Saluki Select Healthy Eating Program
    - Handouts will be given to them to remind themselves what it is when customers ask about it
- Discuss what employees will be doing
    - Those employees who take the food order will ask customers "Have you tried Saluki Select?" If the customer says "no, what is it?' They will proceed to give them information about the healthy eating program
- Mention incentives and where the poster reminder will be placed (at time clock)
    - $20 will be given to each member of the work shift who has the highest percentage increase of Saluki Select foods during the 2 week period

APPENDIX B

Saluki Select Healthy Eating Program

The Saluki Select Healthy Eating Program was implemented at the Student Center in September 2009. Signs are put up at each food concept and the paw print logos can be found on the menus. The following guidelines were developed by Chartwell's and used when identifying the Saluki Select items:

- **Contains less than 350 calories**
- **35% of calories is derived from fat**
- **600 mg of sodium or less**

What YOU will be doing:

- **Ask every customer "Have you tried Saluki Select?" or "Would you like to try a Saluki Select menu item?"**
- **This will take place from Monday, February 8, 2010 through Friday, February 19, 2010, between the hours of 11am-1pm.**

****Whichever work shift increases sales of Saluki Select foods each person from that shift will win $20 each!!!****

Menu items with the Saluki Select logos can be found on this website: http://shc.siuc.edu/wellness%20pages/SalukiStepsNutritionRestaurantGuides.htm

APPENDIX C

Would YOU like to win $20?

Remember to ask each customer “have you tried Saluki Select?”...and you could win! The shift that has the highest sales increase for Saluki Select foods wins $20 each!!!

Contest Begins:
Monday, February 8-19, 2010

APPENDIX D

Research Survey

Are you 18 or older?

If so, what age group do you fall into? 18-24, 25-31, 32-38, 39-45, 46-52, 53-59, 60-66, 67-73, 74 and older

What gender are you? M/F

What is your ethnicity? Caucasian, African-American, American Indian, Alaskan Native, Asian Pacific Islander, Hispanic, Other

Are you a university student, faculty, staff, or not affiliated with the university?

If you are a student, what is your class status?

If you are a student, do you live on campus?

Have you heard about Saluki Select?

VITA

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Bachelor of Science in Human Nutrition and Dietetics, May 2009

Thesis Title:

EFFECT OF SIGNAGE AND SUGGESTIVE SELLING ON SALES OF HEALTHY FOOD OPTIONS IN A UNIVERSITY SETTING

Major Professor: Dr. Sylvia Smith