

## **Upper-Elementary Students' Perception of School Meals**

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### **ABSTRACT**

#### **Purpose/Objectives**

This study is designed to determine which service characteristics of school foodservice and nutrition programs affect the level of satisfaction that Third through Fifth Grade students have with those programs.

#### **Method**

A survey was composed of 18 questions to measure characteristics of service. In addition, one question measured overall satisfaction, while eight questions concentrated on demographic information. The survey was conducted in one school district in each of the following states: Colorado, Connecticut, Georgia, Iowa, Mississippi, North Dakota, Texas, Washington, and Wisconsin. The student sample group totaled 537 people.

#### **Results**

Results showed that students were moderately satisfied with the foodservice and nutrition program in their schools, primarily within factors of food quality and cafeteria. Students were more satisfied with the service factor than with any other. Stepwise multiple regression was applied to develop a model for predicting satisfaction. This model was comprised of seven independent variables and accounted for 63% of the variance in satisfaction. The results also showed that Third Grade students were more satisfied than Fourth and Fifth Grade students and girls were more satisfied overall than boys.

#### **Application to Child Nutrition Professionals**

Being able to identify student perceptions of school meals programs can assist school foodservice directors and managers in making improvements to their foodservice operations. Knowing what can be done to increase satisfaction and participation is a critical decision-making tool.

### **INTRODUCTION**

Appealing to the child customer is not easy today. Children have been raised in an environment of fast food, with most foods eaten with the hands. Children consume many meals away from home. Purchases made at restaurants, through carry-out, and in other eateries account for approximately 34% of the average family's food bill (Whalen, 2000). While spending for dinner is higher, lunch remains the meal most often purchased away from the home (Whalen, 2000). Among all school-age children, one-third gets more than 32% of their calories from sources outside of the home (Lin & Guthrie, 1999). Children attending public schools generally are in school seven hours a day, 180 days a year. While students have various food choices in schools, the most prominent federally-supported program is the National School Lunch Program (NSLP). Approximately 99,000 public schools, non-profit private schools, and residential child care

institutions serve 28 million children daily (ASFSA, 2003) through the NSLP. However, in today's environment, serving healthful meals is not enough. Children have become accustomed to retail marketing that includes a colorful environment and excitement.

School foodservice and nutrition program personnel have worked for years to maximize participation of children in the meal programs and provide foods students will eat while meeting federal guidelines. Head et al. (1981) found that elementary students had a more favorable attitude toward school meals than students at other levels. Snyder et al. (1995) identified quality of food, price of food, whether students' friends eat school lunch, and whether students think it is "cool" to eat the food as important factors related to participation.

Melnik et al. (1998) found that Second and Fifth Grade students who participated in school meal programs consumed more fruits and vegetables than students who did not participate. Baxter (1998) reported that upper-elementary students prefer fruit over vegetables and plate-waste was higher for school lunches that included salads and vegetables. One predominant belief among Fourth and Fifth Grade students is that vegetables taste "nasty." Lee et al. (2001) reported that even though vegetable selection was low when the offer vs. serve method was used, 80% of students selected fruit and the number of students choosing breads/grains and dessert items were high. Two studies of elementary schools using the offer vs. served method reported meal selection by students was lower in several key nutrients (Dillon & Lane, 1989; Lee et al., 2001;). Robichaux and Adams (1985) found that students in two elementary schools ate one-half or more of the bread, vegetable, and combination dishes when the offer vs. serve method was implemented. Whitaker et al. (1993) found that, when given a choice, many elementary school students selected low-fat entrees.

The focus of school foodservice programs has shifted from providing a feeding program to competing with the food industry to make programs more attractive to students (Snyder et al., 1995). Student satisfaction levels, in regards to the school foodservice and nutrition program, are based on how favorably their wants and needs have been favorably met. These expectations are based on food consumed and services experienced outside the school setting. The purpose of this study was to determine which characteristics of service have the greatest affect on the level of satisfaction that Third through Fifth Grade students have with their school foodservice and nutrition programs.

## **METHODOLOGY**

### **Survey Instrument**

A survey was developed with 18 questions, which measured the characteristics of service. Progressive happy to sad faces, anchored with the descriptive terms "always," "often," "sometimes," "almost never," and "never," were used as the satisfaction scale. A question mark was used for "I do not know" responses. For analysis purposes, a six-point scale was applied with 6="I do not know," 5="always," 4="often," 3="sometimes," 2="almost never," and 1="never."

### **Sample**

The research proposal was reviewed and approved by The University of Southern Mississippi's

Human Subjects Committee [The survey was noninvasive and students were not required to complete waivers. Participants were solicited from MEALTALK, an electronic mailing list for child nutrition professionals. Each volunteer was asked to survey one Third, Fourth, and Fifth Grade class from one school in their district. One school from, Colorado, Connecticut, Georgia, Iowa, Mississippi, North Dakota, Texas, Washington, and Wisconsin participated. School foodservice directors and managers worked with principals to coordinate the approval, classroom selection, and distribution processes. Surveys were conducted by teachers in the classroom and students were read an instructional letter and then requested to complete the survey. A total of 568 surveys were collected and returned.

### **Data Analysis**

Statistical analyses were conducted using SPSS 9.0 for Windows. Factor analysis was used to develop the construct of the survey. Stepwise multiple regression was used to determine the relationship between the dependent variable "I like the school meals" and independent attributes of service variables. Student t-tests were conducted to determine if differences existed between the groups "have a choice" and "have no choice," whose membership was determined by the students' answers to the question, "the number one reason I eat school lunch is?" Further analysis of this question revealed that students who answered "I am hungry," "I have no other choice," and "my parents make me" answered the survey differently from students who chose "the prices are good," "the food is good," "it is easy to get," "my teacher encourages me," "my friends eat there," "cafeteria workers encourage me," and "I do not eat school lunch."

Student t-tests were used to determine if a difference existed between boys and girls. Analysis of variance was used to determine if a difference existed in how students answered the survey, based on frequency of eating and grade. To determine the frequency of eating, students were classified as "never ate," "ate 1-3 times per week," and "ate 4-5 times per week."

## **RESULTS AND DISCUSSION**

Of the 568 surveys received, 31 individuals who answered "I do not know" more than six times were removed from the study. Analysis showed that including these students skewed the curve away from the mean and the researcher thought students who responded more than six times with "I do not know" may not be taking the survey process seriously. Surveys with less than six "I do not know" responses were included in the sample, but the school mean was used to replace the answer. Students in the sample totaled 537 with 144 Third Grade students, 145 Fourth Grade students, and 232 Fifth Grade students. Of the sample, 275 were boys and 247 girls. Sixteen surveys did not have complete demographic data for grade and 15 did not complete gender. Factor analysis revealed three constructs: food quality (0.89), service (0.82), and cafeteria (0.72). Means and standard deviations were calculated for the "have a choice" and "have no choice" groups. Table 1 shows complete results.

Results show that students were moderately satisfied with their school foodservice and nutrition program overall (3.5), and with the factors of food quality (3.3) and cafeteria (3.5). Students were more satisfied with the service (3.9) factor than with any other. Students in the "have a choice" group scored food quality and service higher than students in the "have no choice" group.

The stepwise multiple regression model included seven independent variables and explained 63% of the variance ( $F [7,529] = 129$   $p < .0001$ ). The predictors of satisfaction were "I like how the food tastes," "I like the choices of food offered," "I like the brands of food offered," "I like how the food smells," "I like the menu," "the people who serve me smile when I get my food," and "the time given to eat after I have my food and I am seated is okay."

Analysis of variance show that students who ate four to five times per week were more satisfied than students who ate less frequently ( $p < 0.000$ ). A significant difference ( $p < 0.000$ ) also was found with the overall satisfaction measure "I like the school meals" and all factors among grades. Students in the Third Grade were more satisfied than students in other grades. The student t-tests ( $p < 0.05$ ) showed girls were more satisfied than boys for the factor "cafeteria." The number one reason students identified for eating school lunch was that the food was good.

Results of this study show that students in this age group desire similar characteristics for school foodservice and nutrition programs that adults desire from restaurants (Dulen, 1999). Dulen identified that adults desire quality food, clean surroundings, and good service when eating outside of the home. Students are conditioned by restaurants they frequent and are accustomed to the food choice and quality available at restaurants. Due to family schedules, less home cooking is taking place and convenience foods are quickly becoming the standard for comparison of food quality. As a result, students want school meals that look and taste like the convenience of the fast food they consume outside of school.

Students prefer to have a choice when making the decision to eat and what to eat. Students in this study were more satisfied overall and more pleased with food quality when they perceived they had a choice about whether or not to eat school meals. Offer vs. serve is one method school foodservice operations can use to provide students choices. Although the offer vs. serve method may not result in all students meeting the Recommended Dietary Allowances (Dillon & Lane, 1989; Lee et al., 2001), it does provide a variety of foods from which students can choose and may result in students making better choices.

Repetition also can impact customer satisfaction. In this study, repetition impacted student perception both positively and negatively. Students who ate four to five times a week were more satisfied than students who ate less frequently. Although students in lower grades were more satisfied, as they move up in grade they become less satisfied with their school foodservice and nutrition programs (Meyer, 2000; Meyer & Conklin, 1998). This may be due to repetition since students are exposed for several years to the same environment and similar menus.

## **APPLICATION**

The challenge for school foodservice and nutrition professionals is to serve children a variety of foods that look appealing, taste good, and are served in a pleasant environment by friendly staff. This may seem simple, but is not an easy task. As the child grows, develops, and moves from grade to grade, their wants, needs, and tastes change. They are no longer satisfied with what they experienced last month or last year.

The menu is one area school foodservice administrators can easily impact, as it is very important to students. This study shows that the two predictors of satisfaction were "I like the choices of food offered" and "I like the menu." Modifications to the school menus are the most frequently made changes to school foodservice and nutrition programs (ASFSA, 1998). This indicates that foodservice directors and managers recognize that students prefer variety in their menus, however, changes made to the menu must be perceived as a change by students. If it is a food product that is not significantly different from other menu offerings and is not exciting to the student, they may not recognize the change. The offer vs. serve method may be one way to provide students with a variety of choices.

Other areas that foodservice directors and managers should be concerned with are the taste and smell of food, brands offered, friendliness of the staff, and time given to eat once students have obtained their food. In addition to the menu and choices offered, these questions compose the regression model that predicted satisfaction. This model can be interpreted as identifying which service characteristics of school meal programs are important to students. Child nutrition professionals must be willing to monitor these areas continuously, recognize changes in student perception, and adapt their program to meet this dynamic environment. Increasing satisfaction and participation go hand-in-hand, and knowing what can be done to increase these characteristics is a critical decision-making tool needed by all foodservice directors.

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