

NFSMI Research Summary

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Please note that this study was published before the implementation of Healthy, Hunger-Free Kids Act of 2010, which went into effect during the 2012-13 school year, and its provision for Smart Snacks Nutrition Standards for Competitive Food in Schools, implemented during the 2014-15 school year. As such, certain research may not be relevant today.

NFSMI Research Summary is a continuing series of summaries reporting recently completed research funded by the National Food Service Management Institute. This research has been produced by the National Food Service Management Institute, Applied Research Division (NFSMI, ARD), located at The University of Southern Mississippi with headquarters at The University of Mississippi. Funding for the Institute has been provided with federal funds from the U.S. Department of Agriculture, Food and Nutrition Service, to The University of Mississippi. The mission of NFSMI is to provide information and services that promote the continuous improvement of Child Nutrition Programs, such as: School Meals Programs, Summer Food Service Program, and Child and Adult Care Food Program.

Recently Completed Research

Best Practices for Child Care Professionals Creating and Maintaining a Wellness Environment in Child Care Centers Participating in the CACFP

The purpose of this project was to identify best practices or quality indicators for providing a wellness environment in child care centers participating in the Child and Adult Care Food Program (CACFP). This project builds on a recent study conducted by the NFSMI, ARD that investigated the perceptions, practices, and training needs necessary for creating and maintaining a wellness environment in child care centers participating in the CACFP. Through this study, two practice categories were identified: (1) Resources and Partnerships and (2) Healthy Environment.

The best practices research project was conducted in two phases and child care professionals participated in both phases. Phase I utilized an expert panel of child care professionals and state agency staff to identify best practice statements, sub-categories, and goal themes, group similar statements within the two practice categories, and provide formatting suggestions for the best practice resource. In Phase II, 30 child care professionals were selected from a previous list of child care professionals recommended by state agency representatives to serve on a review panel. The reviewers evaluated the best practice statements, goals, and sub-categories and draft resource. Twenty-one child care professionals (70%) completed and returned the evaluation form and provided additional comments and suggestions for formatting the resource.

The resource, *Ready, Set, Go! Creating and Maintaining a Wellness Environment in Child Care Centers Participating in the CACFP*, is a user-friendly checklist to assess wellness and develop a plan of action to implement, assess, and improve wellness practices in child care centers across the country. The resource is designed around 155 best practices that contribute to the achievement of 15 goals listed under the two practice categories and 13 sub-categories. Each best practice statement is assessed following the 3-point, current status or assessment scale (*addressed, not addressed, plan to address*) with *not applicable* as an option should the best practice statement not pertain to the child care provider or the child care center. The resource also contains additional sections with abbreviations and definitions, instructions on how to use the resource, and a list of child care wellness resources. Child care directors may use sections or the entire resource to assess wellness practices in child care or identify staff training needs related to child care wellness practices.

Exploring Trends and Barriers to Implementation of Branding Concepts in the School Nutrition Setting
Previous NFSMI, ARD research showed that to create a school nutrition (SN) program's brand personality,

four primary methods have been utilized singularly or in combination: (a) aesthetics, which focuses on creating a more commercial and contemporary dining environment; (b) staff, which focuses on the SN staff and the manner in which they interact with the students; (c) nutrition, which focuses on nutrition-related themes in all promotional materials, including the cafeteria's brand name; and (d) school spirit, which focuses on utilizing elements depicting school spirit in the décor, menu, staff uniforms, and other promotional materials. In order for SN programs to be competitive, they have to go beyond the core products and build a consistent "brand" that students can relate to. While commercially branded products are being offered through the SN program, the concept of self-branding and creating an SN brand personality are relatively new practices.

The purpose of this research was to identify perceptions, practices, advantages, and barriers to implementation of branding concepts in SN programs. An expert panel session was conducted with seven SN professionals to assist with the development of a comprehensive survey instrument assessing the implementation of branding concepts in SN settings. Expert panel members determined that most SN professionals could relate to a marketing strategy or initiative more so than a branding concept and recommended researchers use the term "marketing" for the survey and any correspondence with study participants. The qualitative information from the expert panel was used to develop the survey and a national review panel evaluated the content, scales, readability, clarity, and flow of the instrument. Surveys were mailed to a random sample of 700 SN directors stratified by the seven United States Department of Agriculture (USDA) regions. Statistical analyses included descriptive statistics, exploratory principal components factor analysis, Cronbach's alpha, and one-way ANOVA with Tukey's post hoc test.

Results identified 10 factors that contribute to marketing the SN program which included SN staff involvement, advantages for students, stakeholders' support, development and implementation, and communication. SN directors reported "hardworking," "friendly," "healthy," and "successful" as the leading personality traits that describe their SN programs. The top marketing initiatives were posters/banners posted in the cafeteria, school specific color scheme in cafeteria, and consistent marketing district-wide. Advantages associated with marketing the SN program included student satisfaction with food choices, updated menu, increase in student participation, and increase in student selection of healthier food products. Barriers identified by participants included time commitment to plan and implement marketing initiatives, find funds for marketing initiatives, SN staff's perception of increased workload, and utilization of existing facilities. These are all important factors when considering how to begin a marketing initiative and for those who are assessing an existing one. SN professionals can use this information to create a "brand" and focus promotional efforts on marketing initiatives that appeal to their customers, thereby increasing participation and satisfaction with their SN programs.

Determining Factors Impacting the Decision of Middle/Junior High School Students to Participate in the NSLP

Previous NFSMI, ARD research showed that at the high school level, there are two distinct groups of students to which SN programs cater. One group of students participate an average of two or less days per week, and the second group of students participate an average of at least three times per week in the National School Lunch Program (NSLP). Each group of students has a different set of concerns. Taking a proactive approach to address students' concerns will provide students with a sense of empowerment and may have a positive effect on their decision to eat school lunch. Middle/junior high school students' satisfaction and positive perceptions of the SN program may lead to a greater willingness to participate in the NSLP once these students transition into high school.

The purpose of this research was to identify issues associated with the participation and satisfaction of middle/junior high school students in the NSLP. Focus group discussions were conducted in four school districts with two groups of participants. The first group was middle/junior high school students and the second group was SN professionals, which included SN directors and middle/junior high school SN managers. Focus group discussions with middle/junior high school students investigated their perceptions regarding service and satisfaction with the SN program and barriers with participating in the NSLP. The focus group discussions with SN professionals explored these same issues from their perspective. Responses from both focus group discussions were transcribed, summarized, and grouped into emerging themes.

The focus group discussions with middle/junior high school students indicated that there are two distinct groups of middle/junior high school customers: students who participate daily in the NSLP and students who participate occasionally or not at all in the NSLP. Results from the middle/junior high school focus groups identified five primary reasons middle/junior high school students eat school lunch: food preference, hungry, no choice, convenience, and socialize. Findings from the focus group also identified four primary reasons

middle/junior high school students do not eat school lunch: food quality, customer service, sanitation, and long lines. SN professionals suggested that the primary reasons students do not choose to eat school lunch were (a) students want to socialize, (b) peer pressure/cool factor, and (c) long lines. In addition, SN professionals identified some challenges with middle/junior high school student participation: school administrators/principals having restrictions regarding socializing during lunch, perception of school lunch, and menu fatigue.

Responses from both focus group discussions revealed that there is a disconnect between the perceptions of middle/junior high school students and SN professionals regarding students' school lunch experiences. Middle/junior high school students have grown up frequenting restaurants with their parents and expecting good customer service. This new generation of customers has learned to recognize brands and make decisions on the foods they will or will not eat. Communication between SN professionals and students is a key factor for improving SN programs. To improve participation, SN professionals need to communicate with students to identify reasons they do not eat school lunch and explore the best course of action to address their customer's wants and needs. Focusing on a customer service oriented approach by involving students can assist SN professionals in developing strategies to increase customer satisfaction and retain these customers once they enter high school. Obtaining a deeper understanding of middle/junior high school students' perceptions will support the efforts of SN professionals in providing products and services to satisfy these customers.

The Impact of Healthy Menu Choices on School Nutrition Programs The Child Nutrition and Special Supplemental Nutrition Program for Women, Infants, and Children Reauthorization Act of 2004 required every school district that participates in the NSLP to establish a local wellness policy. Since the implementation of wellness policies, SN programs are offering healthier menu choices such as whole-wheat, reduced-fat cheese pizza, a variety of fruits and vegetables, hummus and pita bread, fat-free flavored milk, and low-fat yogurt. However, SN programs providing healthier menu options are faced with challenges due to budget constraints, staff shortages, staff training, menu modifications, administrative burden, and lack of acceptance by school staff, students, and parents.

The purpose of this research project was to explore the impact of healthy menu choices on SN programs participating in the NSLP. Two expert panel sessions were conducted with 21 SN professionals to assist with the development of two comprehensive survey instruments, designed to assess the practices, perceptions, barriers, and training/resources related to providing healthy menu choices in SN programs. The qualitative information from both expert panels was used to develop two surveys, one for SN directors and an abbreviated survey for SN managers. A national review panel evaluated both draft surveys to assess the content, scales, readability, clarity, and flow of the instruments. Surveys were mailed to a random sample of 700 SN directors stratified by the seven USDA regions. An abbreviated survey for a SN manager was enclosed in each of the survey packets. Statistical analyses included descriptive statistics, exploratory principal components factor analysis, Cronbach's alpha, independent sample t-tests, and one-way ANOVA with Tukey's post hoc tests.

Results indicated there were 10 factors that contribute to providing healthy menu choices among SN directors which included promotional practices, student benefits, operational practices, wellness policy practices, student focused practices, partnerships and resources, and positive program environment. Barriers identified by SN directors included increases in food, production, and labor costs, recipe development, and students' perception. The resource materials most often used to develop and incorporate healthy menu choices were state agency resources, USDA resources, and networking with other school districts. SN directors identified state agency training, School Nutrition Association (SNA) conferences, and SNA webinars as the trainings they most often attended. Additionally, results indicated there were four factors that contribute to providing healthy menu choices among SN managers which included student focused practices, healthy environment, and operational practices. Barriers identified by SN managers included food, production, and labor costs, knowledge and skill of SN staff to prepare healthy menu choices, and SN staff's willingness to change. SN managers identified training by SN director, state agency training, and SNA conference as the trainings they most often attended.

Through this study, it was apparent that the perception of SN directors and SN managers is that they play an important role in school wellness. Collectively their highest levels of agreement were incorporating healthy menu choices is the right thing to do for students and offering healthy menu choices teaches students how to make healthier lifestyle decisions. This dedication shared by SN directors and SN managers is an integral part in improving the wellness of students and creating a wellness environment in schools.

Secondary Analysis of the School Nutrition Dietary Assessment III Data Base: A Two-Part Study, Volume I: U.S. Public School Children, Dieting Behavior, and Obesity

The purpose of this study was to determine the prevalence and associations of dieting behavior, overweight and obesity in public school children. Data for analysis came from 2,314 public school students and their parents who completed a questionnaire as part of the third School Nutrition Dietary Assessment Study. Socio-demographic information, height and weight measurements, and dieting behavior were obtained. Mean Body Mass Index (BMI) for age percentile for students, grades 1 through 12, was approximately 70%. Overweight and obese prevalence was approximately 40%. Dieting prevalence was 23% for males and 37% for females. Prevalence of dieting among males was higher in middle school than high school and, for females, was higher in high school than middle school. Dieting behavior was higher in obese adolescents than overweight adolescents. No significant differences were found among ethnic groups for dieting behavior, but higher prevalence was found for Hispanic and black females. Students in households with incomes below \$30,000 showed higher prevalence of dieting behavior, overweight and obesity.

Secondary Analysis of the School Nutrition Dietary Assessment III Data Base: A Two-Part Study

Volume II: Food Insecurity

The purpose of this study was to determine the prevalence and associations of food insecurity in US school children. Data from 2,314 public school students and their parents who participated in a questionnaire from the third School Nutrition Dietary Assessment Study was used for analysis. Analysis indicated that there were significant differences in the prevalence of food insecurity in school children. Parameters investigated included urbanicity, child age, school district poverty rate, child health status, primary language spoken at home, region of the country, child ethnicity, and child BMI. Examples of significant differences include: Children who were from urban settings had a greater chance of experiencing low or very low food security (17.2% of children) compared to those from suburban and rural settings (12.2% and 9.7% of children, respectively). Children from the least impoverished school districts experienced low and very low food security less often than children from more impoverished districts (4.3% of children from school districts with less than 10 % of households below the poverty line compared to 13.2% and 20.6% of children in districts with 10 to 20% and greater than 20 % of the households below the poverty line). BMI was also greater for children who suffered from the low and very low food security when compared to children who were food secure. Research is needed to determine what factors lead to these disparities. Education programs are needed to help prevent food insecurity among U.S. children.

Unpublished Dissertations and Theses in Child Nutrition Programs and School-Aged Children, 2008-2009: Annotated Bibliography

There is a significant amount of research conducted by graduate students in fulfillment of requirements for a graduate degree program. This collection of dissertations and theses written after 2008 was compiled based on these submissions from college and university graduate students and faculty. All sources included herein address the field of child nutrition, both in terms of child nutrition programs within the schools and in terms of factors that might affect school-aged children outside of the school setting. Sources were retrieved via *ProQuest's Dissertations and Theses* online database, a service to which any institution of higher learning may subscribe, using an extensive list of keywords and phrases. Once sources were retrieved, they were reviewed for relevance by the NFSMI, ARD researchers and were then clustered under 20 main topic areas. Since the main topic areas are determined by the content of current unpublished dissertations and theses, the topics change with each new annotated bibliography. Several new topics have emerged to reflect current trends, such as: "Body Image," "Childcare & Daycare Centers," "Farm to School," "Food Safety," "Fresh Fruits/Whole Grains," "Home, Family, Caregivers," "Multicultural Food & Nutrition Issues," and "Overweight/Obesity." Though the initial intent of assembling this collection was to provide a central resource for recent scholarship, it would appear that a secondary result is that, by noting the flux of category addition, category omission, and volume of content within each category, one may take note of the evolution of trends within the field of child nutrition.