



# Insight

## Healthy School Nutrition Environment: A Nationwide Survey of School Personnel

**O** Nutrition and physical activity are important for children's health and physical well-being. The United States Department of Agriculture (USDA) developed *Changing the Scene: Improving the School Nutrition Environment*, a tool kit that will guide local school personnel in promoting healthy school nutrition environments (HSNE) (USDA, 2000). An HSNE gives students consistent, reliable health information and ample opportunity to use it. For example, in healthy environments, the classroom, dining room, and other school activities provide clear and consistent messages that explain and reinforce healthy eating and physical activity habits. Students learn to make healthy lifestyle choices not only in the classroom or dining room, but also at school parties, sports events, and other activities—wherever they are throughout the school day. Students have many opportunities to practice healthy habits. The purpose of this project was to learn more about an HSNE from the perspective of school personnel and to have school personnel rank the most important components and barriers related to an HSNE.

A nationwide survey was developed, pilot tested, and sent to a random national sample of K-12 foodservice directors, foodservice managers, school superintendents, principals, school business officials, teachers, and coaches in October 2003. A total of 3,500 surveys were mailed, 500 in each of the seven groups. The overall response rate was 34.9% (N= 1,222).

Forty-eight percent of respondents were from districts with less than 2,500 students; 33% responded from districts with 2,501-10,000 students; and 19% of respondents were from districts with more than 10,000 students. Eighty-nine percent of respondents were from districts that participate in the National School Lunch Program. An HSNE was a high priority

for 53% of respondents and 40% selected family education as most important for increasing awareness of an HSNE.

Respondents ranked the following fundamental components of an HSNE in decreasing order of importance:

- behavior-focused nutrition education
- adequate funds provided by local, state, and federal sources
- à la carte menu items that contribute to healthy eating patterns
- involvement of students and parents in developing food and nutrition policy
- meal schedules that meet the hunger needs of children
- adequate time for children to enjoy their meals with friends
- school meals that meet USDA nutrition standards as well as provide choices
- sufficient serving areas to ensure student access to meals with a minimum waiting time
- adults and peers as role models for healthy eating
- healthy snacks in vending machines, snack bars, and school stores
- customer service
- adequate dining space
- pleasant ambiance

Respondents ranked the following components as barriers to an HSNE in decreasing order of importance:

- funding for school foodservice
- competitive foods
- children's peer pressures
- television/media
- menus
- funding for school activities
- cafeteria atmosphere
- parental attitudes

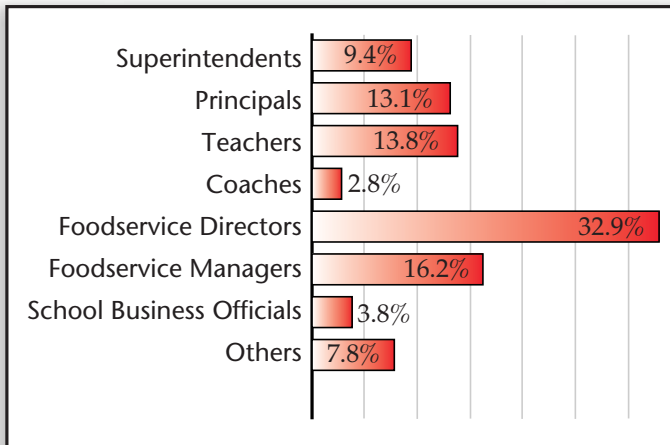
Even though most respondents perceived they already had an HSNE, responses to questions about vending, school stores, and fundraisers indicated that there are many opportunities for schools to improve upon a healthy school nutrition environment. More collaboration is needed among school personnel on policies and programs that will support an HSNE.

## RESEARCH PHASES

### PHASE I-FOCUS GROUPS

In 2000 the National Food Service Management Institute (NFSMI) Applied Research Division conducted focus groups regarding an HSNE and promotion of healthy eating behaviors in middle schools (Meyer et al., 2000). Regional workgroups identified a number of barriers that prevented the development of a good nutrition environment in middle grades. Participants in the four focus groups represented school administrators, educators, and foodservice administrators. The workgroup participants also identified potential actions that

**Figure 1** Distribution of Survey Respondents



could be used to overcome the barriers and made suggestions concerning approaches to increase awareness and promotion of healthy eating behaviors. The information identified during the focus group sessions was used to construct the survey instrument used in Phase II and Phase III.

### PHASE II-INSTRUMENT DEVELOPMENT

A survey instrument to learn more about components of an HSNE was designed for use in all grades based on the responses of the focus group study. The pilot survey was reviewed and approved by the Education Information Advisory Committee of the Chief State School Officers Council in December 2001. The pilot survey was mailed to a random national sample of superintendents, principals, school foodservice directors, school foodservice managers, teachers, coaches, and school business officials (50 per group; N=350) in January 2002. Comments and preliminary results from the pilot test were incorporated into the final survey instrument. One question was added to the survey, and a number of response choices were added or clarified for several questions.

### PHASE III-SURVEY PROCESS

In October 2002, the final survey, was sent to a random national sample of superintendents, principals, school foodservice directors, school foodservice managers, teachers, coaches, and school business officials. A total of 3,500 surveys were mailed, 500 from each group.

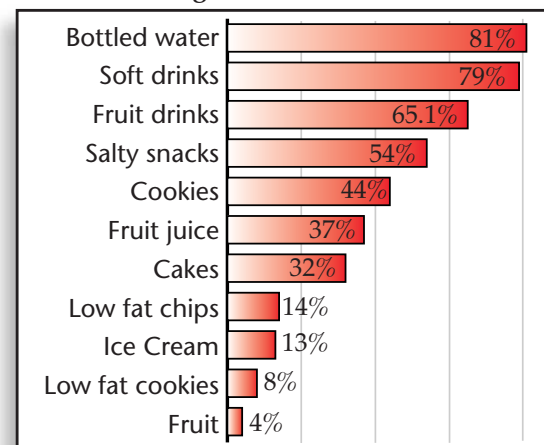
*“We need support to convince principals and coaches that soft drink vending machines are not the answer for funding their programs.”*  
(Foodservice Director)

## RESULTS

The overall response rate was 34.9% (N= 1,222). Respondents were employed in school districts for an average of 15.7 ± 9.8 years and were employed in their current district for 12.8 ± 9.2 years. Forty-eight percent of respondents were from districts with less than 2,500 students; 33% responded from districts with 2,501-10,000 students; and 19% of respondents were from districts with more than 10,000 students. Eighty-nine percent of respondents were from districts that participate in the National School Lunch Program. See Figure 1 for respondents. Nutrition was reported as included in school curriculums by 75.8% of all respondents. School foodservice personnel reported they were involved in only 54.6% of districts. An HSNE was a high priority for 53% of all respondents, and 40% selected family education as most important for increasing awareness of an HSNE.

Ninety-nine percent of respondents reported that fundraisers were used. During a school day 1.3% of fundraisers occurred before school, 20.9% during school, and 53.4% after school hours. Candy (70.9%) and baked goods (48.9%) were the most popular

**Figure 2** Items Most Frequently Available in Vending or School Stores



*“Nutritional awareness must start from the top down with parents, commitment from district leadership, and emphasis on foodservice as an integral part of the school environment instead of a ‘necessary evil.’”*  
*(Foodservice Director)*

fundraising items. Vending was reported as available in elementary schools by 41.6% of the survey respondents, available in middle/junior high schools by 70% of the respondents, and available in high schools by 86.8% of the respondents. In

*“I am very committed in providing healthy school meals in my lunch program. However I do feel school administrators need to make nutrition and physical activity a priority in the school curriculum. Parents also need to be educated and they need to reinforce healthy eating habits and exercise at home.”*  
*(Foodservice Director)*

sources” as numbers one and two, respectively. School foodservice directors and managers ranked “adequate time for children to enjoy their meals with friends” as number three, and other school personnel ranked “à la carte menu items that contribute to healthy eating patterns” as number three. See Table 1 for the complete ranking.

*“Kids’ eating patterns are driven by media and fast food companies.”*  
*(Superintendent)*

elementary schools 16.7% of the respondents reported school stores were available, in middle/junior high schools 36.7% reported school stores were available, and in high schools 36.2% reported school stores were available to students. The items most frequently available in vending and school stores are indicated in Figure 2.

### **Responses of Foodservice Personnel As Compared to Other School Personnel**

Forty-nine percent of respondents were school foodservice directors and managers. Fifty-one percent were superintendents, principals, teachers, coaches, and school business officials. Some differences of opinion concerning important components and barriers were identified. In ranking most important components of an HSNE, both groups ranked “behavior-focused nutrition education” and “adequate funds provided by local, state, and federal

Respondents were asked to comment on what could be done to move an HSNE to a higher priority. A total of 383 comments were submitted in response to this question. Comments from each group were categorized to determine the main issues for each group.

- Foodservice directors (n=140) mentioned nutrition education, adequate funding, support from principals and superintendents, and competitive foods.
- Foodservice managers (n=37) mentioned nutrition education, parental involvement, and support from administrators.
- Superintendents (n=49) mentioned adequate funding, competing priorities, parental involvement, and nutrition education.
- Principals (n=57) mentioned better menus with healthy choices, competing priorities, parental involvement, and nutrition education.

**Table 1 Ranking of the Most Important Components of Healthy School Nutrition Environments**

Components	Foodservice Personnel Ranking (n=600) *	Other School Personnel Ranking (n=619)
Behavior-focused nutrition education by staff with appropriate training	1	1
Adequate funds provided by local, state, and federal sources	2	2
Adequate time for children to enjoy their meals with friends	3	9
Meal schedules that meet children’s hunger needs	4	6
Involvement of students and parents in developing food and nutrition policy	5	4
Sufficient serving areas for student access to meals with a minimum waiting time	6	10
School meals that meet USDA nutrition standards as well as provide choices	7	5
Adults and peers as role models for healthy eating	8	8
À la carte menu items that contribute to healthy eating patterns	9	3
Customer service	10	13
Healthy snacks in vending machines, snack bars, and school stores	11	7
Adequate dining space	12	11
Pleasant ambiance	13	12

\*1 is most important, a total of 1219 responses were evaluated.

**Table 2 Ranking of the Most Important Barriers to Healthy School Nutrition Environments**

Barriers	Foodservice Personnel Ranking (n=600) *	Other School Personnel Ranking (n=618)
Funding for school foodservice	1	2
Competitive foods	2	3
Children's peer pressure	3	4
Other**	4	5
Menu	5	6
Television/media	6	1
Funding for school activities	7	8
Cafeteria atmosphere	8	7
Parental attitudes	9	9

\*1 is most important, a total of 1218 responses were evaluated.

\*\*Foodservice personnel mentioned lack of support from administrators and children's food preferences most often and other school personnel mentioned children's food preferences most often. A total of 1218 responses were evaluated.

- School business officials (n=16) mentioned adequate funding and parental involvement.
- Teachers (n=72) mentioned better menus with more variety and healthy choices, nutrition education, and family education.
- Coaches (n=12) mentioned offering healthy choices and removing candy and soft drink machines.

When identifying barriers to an HSNE, school foodservice directors and managers ranked barriers differently from other school personnel. School foodservice directors and managers chose funding for school foodservice, competitive foods, and children's peer

*"I'm not sure USDA nutrition standards guarantee a healthy balanced meal. The food served in our cafeteria often looks beige, lacking freshness and variety." (Teacher)*

pressure as the most important barriers while other school personnel chose television and media, funding for school foodservice, and competitive foods as the most important barriers. See Table 2 for a complete ranking of barriers.

### Respondent Comments

The final question in the survey was an opportunity for respondents to make

additional comments in an open-ended format. Many foodservice directors (n=115) provided input. Their comments focused on adequate funding, administrative support, nutrition education, vending, impact of fast food, and need for regulations. Foodservice managers (n=27) provided comments related to adequate funding, nutrition education, student preferences for fast food, and establishment of dietary habits at home. Thirteen

*"It is difficult to balance funding vs. sales vs. needs of students. Students have a wonderful healthy group of choices-many prefer fast food." (School Business Official)*

superintendents wrote comments primarily related to student preferences and funding. The majority of comments by principals (n=25) related to menus, parental involvement, waste of food, and eligibility for free and reduced price meals. Six school business officials wrote comments that addressed nutrition, available choices, parental responsibility, and time available for meals. Forty-two teachers wrote comments addressing menus, unappealing foods, and parental involvement. Six coaches gave comments, and three of the six

*"I feel the family should be responsible for their child's nutritional health." (Teacher)*

comments were related to choices and healthy food options. Teachers and coaches expressed more negative attitudes toward school foodservice than superintendents, principals, and school business officials.

*“There needs to be more options so students can enjoy a healthy meal.” (Coach)*

## **PRACTICAL USE OF THIS INFORMATION**

Foodservice directors’ and managers’ opinions about an HSNE are different from those expressed by other school personnel. Even though most respondents perceived

*“We really need a national, state, and local partnership with parents, families, businesses, and commercial interests to re-shape nutrition policies and attitudes.” (Principal)*

they already had an HSNE, responses to questions about vending, school stores, and fundraisers indicated that there are many

opportunities for schools to improve upon healthy school nutrition environments. More collaboration is necessary among school personnel on policies and programs that will support an HSNE.

### **Suggested activities for improving an HSNE:**

- ✓ Develop communication tools and strategies for foodservice directors and managers to use when communicating the importance of an HSNE with superintendents, principals, school business officials, teachers, and coaches.
- ✓ School foodservice administrators can consider the priorities and concerns of other school personnel to tailor specific messages to superintendents, principals, school business officials, teachers, and coaches.
- ✓ School personnel need to work together to implement existing tools for improving an HSNE such as *Changing the Scene* (USDA, 2000) and the age-appropriate *School Health Index* (Centers for Disease Control and Prevention, 2002a, 2000b).

- ✓ Develop federal, state, and district policies that would address nutritional quality of foods offered and sold instead of reimbursable school meals and snacks.
- ✓ Foodservice personnel need additional training opportunities to learn more about nutrition, preparing healthy meals, and marketing healthy choices.
- ✓ Educate adults who influence children, including parents, to become effective role models for healthy eating behaviors.

## **FACT FINDER**

- 73%** of all respondents strongly agreed or agreed that they already have healthy school nutrition environments
- 71%** of school fundraisers included candy
- 55%** of respondents reported that teachers and administrators use foods as rewards
- 42%** of respondents reported vending machines in elementary schools
- 21%** of school fundraisers were during school hours
- 4%** of school fundraisers included fruits

## For More Information

### RESOURCES:

Centers for Disease Control and Prevention. (2002a). *School health index for physical activity, healthy eating, and a tobacco-free lifestyle: A self-assessment and planning guide*. Elementary school version. Atlanta, GA: Author.

Centers for Disease Control and Prevention. (2002b). *School health index for physical activity, healthy eating, and a tobacco-free lifestyle: A self-assessment and planning guide*. Middle school/high school version. Atlanta, GA: Author.

Meyer, M. K., Conklin, M. T., Lewis, J. R., Marshack, J., Cousin, S., Turnage, C. & Wood, D. (2000). *School nutrition environment in the middle grades and the promotion of healthy eating behaviors* (R-44-01). University, MS: National Food Service Management Institute.

U.S. Department of Agriculture. (2000). *Changing the scene: Improving the school nutrition environment*. Alexandria, VA: Author.



*Please feel free to reproduce and distribute this publication.  
Copies are also available on our Web Site: [www.nfsmi.org](http://www.nfsmi.org)*

Information about this and other topics may be obtained by contacting the

**NATIONAL FOOD SERVICE MANAGEMENT INSTITUTE**  
**The University of Mississippi**

Telephone: 800-321-3054

Item Number R-122-03

**AUTHORS:** Alice Jo Rainville, PhD, RD, CHE, SFNS, 2000-2003 NFSMI Scholar, Eastern Michigan University; Kyunghee Choi, RD, Eastern Michigan University; and Denise M. Brown, PhD, RD, Director, Applied Research Division

This publication has been produced by the National Food Service Management Institute, Applied Research Division, 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 contents of this publication do not necessarily reflect the views or policies of the University of Mississippi or the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

The National Food Service Management Institute complies with all applicable laws regarding affirmative action and equal opportunity in all its activities and programs and does not discriminate against anyone protected by law because of age, color, disability, national origin, race, religion, sex, or status as a veteran or disabled veteran.