



United States Department of Agriculture

*Special Nutrition Program Operations
Study: On-Site Observations of Cafeteria
Operations and Competitive Foods -
School Year 2012-13*

Nutrition Assistance Program Report
Food and Nutrition Service
Office of Policy Support

October 2016

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Special Nutrition Program Operations Study: On-Site Observations of Cafeteria Operations and Competitive Foods - School Year 2012-13

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This study was conducted under Contract number AG-3198-D-10-0048 with the Food and Nutrition Service, United States Department of Agriculture.

This report is available on the Food and Nutrition website:

<http://www.fns.usda.gov/ops/research-and-analysis>

Suggested Citation:

Roeser, Allison, Laurie May, and Kim Standing. *Special Nutrition Program Operations Study: On-Site Observations of Cafeteria Operations and competitive Foods - School Year 2012-13*. Project Officer: John R. Endahl. Prepared by Westat for the U.S. Department of Agriculture, Food and Nutrition Service, October 2016

Acknowledgements

We would like to thank the many individuals whose efforts contributed to the preparation of this report.

First and foremost, we want to extend our sincerest gratitude to the many SFA directors and school cafeteria staff who participated in the on-site visits that were conducted during the spring of 2013. Without their cooperation and assistance in scheduling the visits this report would not be possible.

We would also like to thank the many staff who conducted these visits over a very short period of time. Your flexibility was greatly appreciated.

Finally, and most importantly, we would like to thank John Endahl and the Child Nutrition Office staff for their support and guidance during the preparation of this report.

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Executive Summary

Background and Purpose of the Study

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) are the two largest school-based child nutrition (CN) programs providing meals and snacks to millions of school-age children every day. Since its inception in 1946, the NSLP focus has shifted from addressing malnutrition to improving the nutritional quality of school meals and preventing childhood obesity. The Healthy, Hunger-Free Kids Act (HHFKA) in 2010 set forth a timeline for the U.S. Department of Agriculture (USDA) to address numerous factors that influence overall nutrition and wellness in the school environment. Key provisions in HHFKA include requiring USDA to update school nutrition standards and meal requirements in a timely manner, expanding USDA's authority in setting standards for competitive foods, and strengthening local wellness policies. Moreover, the USDA recognizes the importance of serving appealing, high-quality and safe food when adopting new nutrition standards. Beyond the nutrition standards and wellness policies, there are other factors, such as the school meal scheduling policies and the eating environment, which may impact student dietary behavior and health.

The Special Nutrition Program Operations Study (SN-OPS) is a multiyear study designed to provide the USDA's Food and Nutrition Service (FNS) with a snapshot of current state and School Food Authority (SFA) policies and practices and a baseline for observing the improvements resulting from the implementation of the HHFKA. Working with 122 SFAs, selected to cover a broad range of SFAs with respect to region, enrollment size, and poverty, the study identified up to three schools associated with each of these SFAs for on-site observations. On-site data collection activities involved: (1) observations of school meals (breakfast and lunch), (2) observation of the physical characteristics of the cafeteria environment, and (3) identification of alternate food sources (e.g., school stores, snack bars, vending machines, food carts, etc.) and examination of their location, hours of operation, and the types of food available. On-site activities also included obtaining information from the school food service managers regarding any strategies that the schools are implementing to encourage healthy food choices. The study provides FNS with information about the characteristics, ongoing efficiency, and practices around school meal programs so FNS has a better understanding of the changes stemming from the implement of HHFKA.

School Food Environment

School meal scheduling policies and the eating environment are factors that may impact student dietary behavior and health. There has been concern that short meal periods and scheduling breakfast and lunch close together may result in children eating abbreviated meals. The majority of schools visited (93 percent) served breakfast and reported meal start times between 7:00-8:00 a.m., with the most common start time of 7:30 a.m.. For lunch, most schools had more than one lunch period, with almost three-quarters starting meal service between 10:30-11:30 a.m. The most common start of the first lunch period was 11:00 a.m., and the end time for the last lunch period in most schools was 12:30p.m. However, there was considerable variation, with some schools starting

the first lunch as early as 9:40 a.m. and others ending the last lunch period as late as 2:15 p.m. The average (mean) length of breakfast was almost 37 minutes compared to almost 34 minutes for lunch. Only 10 percent of the schools visited allowed less than 20 minutes for either breakfast or for lunch.

In general, the schools visited served breakfast and lunch in the cafeteria only and did not have other activities occurring in the same space during the meal period. Overall, the eating environment was clean and well supervised. The majority of schools had clean walls, floor, ceiling, and windows. Student movement and noise levels during breakfast and lunch varied, however; an equal percentage of schools (40 percent each) were observed to have some and no noise during lunch. Almost all schools were observed to have adult supervision during lunch (97 percent), and a large share of schools appeared to have adequate staffing, such as cashiers and food service staff, serving meals (92 percent).

Plate Waste

One measure of how successful a meal program is in getting children to eat nutritious foods is the extent of plate waste. The study collected data on two measures of plate waste, an estimate of *the change in plate waste since implementation of new meal pattern requirements* from the school food service managers and an estimate of *current plate waste levels* from observations. At the majority of schools, “some” plate waste (defined as more than none but less than half) was observed for each food item except dessert. While there was some variation by food item for breakfast and lunch, overall less waste was observed during breakfast than lunch. Food groups with the highest percentages of “most/all” wastage during lunch were cooked vegetables (21 percent), salad/raw vegetables (13 percent), and fruit (12 percent). Similar to the observational findings, Table ES-1 shows that school food service managers in almost half of the schools reported students waste more cooked vegetables and salad/raw vegetables since implementation of the new meal pattern requirements followed by 37 percent of schools wasting more fruit. Together the two measures suggest that plate waste is relatively high for healthier foods and has increased among these options in the past year. Reasons given by school food service managers for the change in plate waste were most often “type of food served,” followed by “amount of food served.”

Table. ES-1. Percentage of Schools in which Food Service Managers Report Changes in Plate Waste Since Implementation of New Meal Pattern Requirements, SY 2012-13

Food	Percentage of schools			
	Students waste more	Students waste less	No change in waste	Don't know
Fluid milk (n=307 ¹)	4.2%	11.1%	82.1%	2.6%
Main dish/entrée (n=303 ¹)	12.2	13.2	72.6	2.0
Bread/bread alternate (n=306 ¹)	20.9	12.4	64.4	2.3
Salad/raw vegetables (n=302 ¹)	42.7	13.6	40.1	3.6
Cooked vegetables (n=305 ¹)	46.6	10.2	40.7	2.6
Fruit (n=305 ¹)	37.1	20.0	41.3	1.6
Desserts (n=218 ²)	0.5	10.1	64.7	24.8

¹ n is less than 309 because not all schools serve all food items and item non-response.

² n is less than 309 because 89 schools (28.8 percent) reported that desserts were not applicable and item non-response.

Data Source: Food Service Manager Interview Form question A13.

Observers indicated that the overwhelming majority of schools served meals that were “very appealing/appealing.” The level of appeal of lunch was inversely associated with plate waste during lunch. Current plate waste was generally high even when the meal was appealing, but was the highest when the meal was not appealing. When looking across school type, elementary schools had the largest percentage of high plate waste (63 percent) followed by middle schools (58 percent) and then high schools (51 percent).

While there are hygiene issues that need to be managed, there is evidence suggesting that trading tables may have a favorable impact on plate waste. Roughly one-quarter of all schools offered “trading” tables at breakfast and lunch, where students could exchange packaged foods. Trading tables were more common in elementary and middle schools than in high schools. Fifty-one percent of schools with trading tables at lunch had a low plate waste compared to 41 percent of the schools without trading tables.

Competitive Foods

Over the years, the types and locations of competitive foods sold in school have increased significantly, causing administrators, public health experts, and policy makers to express concerns about the potential negative impact such foods may have on student health. Consistent with previous findings, Table ES-2 shows that competitive foods were widespread in schools, especially in middle and high schools. The median number of sources of competitive foods, for those schools with competitive foods, ranged from 1 for elementary schools to 7 for high schools. À la carte lines and vending machines were the most common sources of competitive foods. Among schools with à la carte lines, almost all operated during lunch, and about half operated during breakfast. À la carte lines were more likely to operate outside of meal times in high schools than elementary and middle school. In nearly all cases it was reported that à la carte lines were available to students before the official start of breakfast. Over half of the schools observed had one or more vending machines on campus, with an average of about 4 vending machines each. Middle and high schools had a greater number of vending machines on campus than did elementary schools, with the majority available to students for purchasing items at least some time during the school day.

On-site observations revealed beverages (including milk) were the most common category of competitive foods available to students (offered by 70 percent of schools). Water and 100% juice were the most common beverages, with pizza and low-fat chips as the most popular entrée/side competitive food items in all schools. Almost one-third of school food service managers reported that they had already made changes to the availability of competitive foods over the past 2 years. Among schools that reported having made changes, the most common change across all food source venues was the change in the types of foods available among à la carte items and vending machines. Over three-quarters of schools reported new state regulations as the impetus for change followed by almost half citing school district policy. Eighty-five percent of schools reported that decisions about competitive foods were made centrally by the Board of Education and school administrators.

Table ES-2. Percentage of Schools with Competitive Foods Available from Various Sources and Hours of Operation, by School Type, SY 2012-13

	Percentage of schools				
	Elementary (n=107)	Middle (n=78)	High (n=88)	Other (n=36)	All Schools (n=309)
Competitive food source					
À la carte lines	32.7%	62.8%	69.3%	38.9%	51.5%
School store	1.9	7.7	35.3	2.8	12.9
Snack bar	0.0	6.4	12.5	2.8	5.5
Food cart	1.9	3.9	5.7	2.8	3.6
Vending machines	4.7	61.5	94.3	63.9	51.5
Other	0.9	1.3	4.6	2.8	2.3
Any competitive food source	39.3	87.2	99.0	75.0	72.5
Hours of operation among à la carte lines					
During breakfast	37.1	50.0	59.0	42.9	50.3
During lunch	97.1	93.9	98.4	85.7	95.6
During the school day outside of breakfast and lunch	5.7	4.1	14.8	14.3	9.4
Before the school day starts or after the school day ends	2.9	4.1	9.9	14.3	6.9

Data Source: Other Food Sources Checklist, questions 1 and 2; Vending Machine Checklist, question 1.

Food Safety

HHFKA reinforces the long-standing focus on food safety by requiring that schools continue to receive two food safety inspections a year and that the food safety program applies to the entire school campus. The first-year SN-OPS report revealed that there were high levels of food safety compliance, which is consistent with the on-site data findings.

While the percentage of schools observed using general food service safety measures varied somewhat between breakfast and lunch, both were relatively high. When comparing all safety measures, compliance was high for properly wrapping and covering food along with proper storage of cold/hot foods for both breakfast and lunch. Wiping up spills quickly and wearing hair restraints were the least observed food service safety measures during both meal times. The majority of schools stored milk products in a refrigerated case or counter during breakfast (71 percent) and lunch (81 percent).

Conclusion

Cafeteria observations coupled with school food service manager interviews provide information on cafeteria environment and competitive food policies in addition to exploring meal appeal, plate waste, and food safety. Most schools were observed to have high levels of cleanliness in addition to good food safety practices. Regarding meal schedules, while most schools serve meals around the same time, there are schools with meal times that are very early or late when compared to the majority of schools. The same holds true for average length of meal time. Plate waste is substantial across all schools regardless of meal appeal. The selling of competitive foods continues to be widespread in schools, particularly in middle and high schools, with à la carte lines and vending machines being most prevalent. Among schools implementing competitive food changes, food service managers most often reported changing the types of food available.

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Section I: Study Overview

For seven decades, the Federal government has sought to safeguard the health and well-being of the Nation's children. Through the National School Lunch Program (NSLP) and School Breakfast Program (SBP), the two largest child nutrition (CN) programs, USDA has provided funding for meals and snacks for millions of school-aged children every day. NSLP alone has grown from serving approximately 7 million students during its inaugural year in 1946 to serving more than 31.6 million students during FY 2012.¹ Although it started as a pilot program in 1966, SBP has grown to serving 12.9 million students in FY 2012 from just 500,000 students in FY 1970.²

While early concerns about child nutrition focused on malnourishment, more recently the concern has shifted to childhood obesity and the nutritional quality of school meals. Much of the concern has stemmed from studies that examined the school food environments and found that low-nutrient, energy-dense foods and beverages were being sold à la carte in the cafeterias and through vending machines (Delva et al., 2007; Finkelstein et al., 2008; French et al., 2003; Kubik et al., 2003).³ A national study on the availability of soft drinks in schools found that most high school students can access soft drinks both through vending machines (88 percent) and in the school cafeteria at lunch (59 percent), with middle schools providing somewhat less access (Johnston et al., 2007).

Given the number of students participating in NSLP and SBP, there is a realization that the quality and nutrient content of school meals is one way to improve children's diets and potentially affect the obesity problem while providing additional food security and ensuring that children are ready to learn. This led to calls from the public for improvements in the quality of school meals. In response, the USDA commissioned the Institute of Medicine (IOM) to convene a committee to recommend revised standards and requirements to make school meals healthier. In its 2010 report, *School Meals: Building Blocks for Healthy Children*, the committee recommended that USDA adopt standards for menu planning, including (1) increasing the amount and variety of fruits, vegetables, and whole grains; (2) setting minimum and maximum levels of calories; and (3) focusing more on reducing saturated fat, trans fat, and sodium (National Research Council, 2010). These recommendations were incorporated into the HHSFKA in 2010 and resulted in USDA revising the nutritional standards for school meals.

The HHSFKA is a very comprehensive bill that includes over 70 sections divided among four titles. The implementation timeline for the new requirements in the HHSFKA began in late 2010 and will continue over a 10-year period, with the meal pattern changes being phased in starting in SY 2012-13. The two provisions that are particularly important for the nutrition of foods available in schools are:

- School meal pattern standards: the HHSFKA required USDA to issue a proposed rule within 18 months to update meal pattern requirements for the NSLP and the SBP.

¹ <http://www.fns.usda.gov/pd/slsummar.htm>. <http://www.fns.usda.gov/sites/default/files/NSLPFactSheet.pdf>.

² <http://www.fns.usda.gov/pd/sbsummer.htm>. <http://www.fns.usda.gov/sites/default/files/SBPfactsheet.pdf>.

³ <http://pediatrics.aappublications.org/cgi/content/full/122/1/e251>.

- Competitive foods standards: the HHFKA provided USDA the authority to set nutrition standards for all foods regularly sold in schools during the school day, including vending machines, the à la carte lunch lines, and school stores.

At the Federal level, FNS administers the NSLP and the SBP programs. FNS develops program eligibility requirements, benefits, and application processes and provides guidance to School Food Authorities (SFAs) on implementing the NSLP and SBP. At the state level, the two programs are usually administered by state education agencies (SEAs), which administer the program through agreements with SFAs. SFAs are semi-autonomous nonprofit entities established by LEAs for the sole purpose of operating the school meals programs. State agencies monitor and supervise SFA compliance with Federal financial management standards, review SFA contracts with food service management companies, conduct training programs, provide on-site technical assistance, and assist SFAs with the operation of computerized nutrient menu planning systems and direct certification of students' eligibility. However, differences in demographics, staffing, financial status, and other school- and district-level circumstances result in considerable variability in program implementation.

Study Purpose

The SN-OPS study is a multi-year study designed to gather up-to-date information about the nature of current CN program implementation, administration, and operations, to better inform future policy development. FNS requires information, not already provided through state reporting, that will assist in understanding characteristics and administration of the state and local CN programs with regard to the new requirements. This information will help FNS identify training and technical assistance needs and opportunities, as well as assess achievement of the new legislative goals. The data collected through SN-OPS provides the USDA, FNS with a snapshot of current state and SFA policies and practices and a baseline for observing changes resulting from the implementation of the HHFKA. The study provides FNS with key information about the characteristics, ongoing efficiency, and effectiveness of the CN program so FNS has a better understanding of what is happening at the state and local levels, which can then be used to determine program policy needs, develop informed regulations and guidance, and provide needed technical assistance.

The overall design of SN-OPS combines elements of cross-sectional and longitudinal research to minimize burden on states and SFAs while gathering sufficient information to address USDA's needs. SN-OPS consists of two core surveys administered each year: one targeting state CN program directors and one targeting local SFA directors. The State CN Director Survey includes directors from all states, the District of Columbia, and 5 U.S. territories. The SFA Director Survey uses a stratified sample of SFAs serving at least one public school participating in NSLP from the entire list of 14,797 public school SFAs (as of 2010). The sample of SFAs was augmented in the second year to account for non-response as well as changes in the universe of public SFAs.

A third source of data, and the focus of this report, is the on-site visits conducted during the second year, SY 2012-13. The purpose of the visits to SFAs and schools was to gain more in-depth understanding of SFA operations by observing breakfast and lunch service and collecting information about the availability of competitive foods.

Study Design

From the 1,400 SFAs responding to the SFA Director Survey conducted during SY 2011-12, a sample of 125 SFAs were selected to cover a broad range of SFAs with respect to geography (FNS region), size category, and poverty status. A second sample of 125 SFAs was selected to serve as replacements in the event an SFA on the original sample list refused to participate in this component of the study. For each of the sampled SFAs, a maximum of three schools were selected for the in-person site visits, including where possible one elementary school, one middle school, and one high school per SFA. Staff spent 1 day at each sampled school observing breakfast and lunch service, speaking with the school food service manager, and obtaining information about the location and contents of vending machines and other sources of competitive foods within the school.

Table I-1 summarizes the distribution of the 1,400 responding SFAs by region, size category, and poverty status. Table I-2 summarizes the numbers of SFAs selected for the on-site visits. In the event that a selected SFA did not agree to participate, an SFA with similar characteristics was selected from a second, backup list of SFAs.

Table I-1. Number of Base Year SFA Respondents by FNS Region, Enrollment Size Category, and Percent of Students Eligible for Free/Reduced-Price Lunch

FNS Region	Total	Enrollment size category					
		Under 1,000		1,000 to 4,999		5,000 or more	
		Percent eligible for free/reduced-price lunch					
		Under 60	60 or higher	Under 60	60 or higher	Under 60	60 or higher
Northeast	147	26	3	80	1	31	6
Mid-Atlantic	142	13	6	62	4	47	10
Southeast	183	3	5	27	35	80	33
Midwest	278	55	19	116	19	51	18
Southwest	237	26	42	42	34	48	45
Mountain Plains	188	71	18	42	10	40	7
Western	225	21	24	40	23	77	40
Total	1,400	215	117	409	126	374	159

Table I-2. Number of Base Year SFA Respondents to be Selected for Site Visits by FNS Region, Enrollment Size Category, and Percent of Students Eligible for Free/Reduced-Price Lunch

FNS Region	Total	Enrollment size category					
		Under 1,000		1,000 to 4,999		5,000 or more	
		Percent eligible for free/reduced-price lunch					
		Under 60	60 or higher	Under 60	60 or higher	Under 60	60 or higher
Northeast	13	2	0	7	0	3	1
Mid-Atlantic	13	1	1	6	0	4	1
Southeast	14	0	0	2	3	6	3
Midwest	25	5	2	9	2	5	2
Southwest	21	2	4	4	3	4	4
Mountain Plains	18	6	2	4	1	4	1
Western	21	2	2	4	2	7	4
Total	125	18	11	36	11	33	16

Of the 125 SFAs on the original sample list, 29 refused to participate and were replaced with similar SFAs from the replacement sample list. Table I-3 compares the characteristics of the sample with those of the SFAs recruited for the study. Out of the 125 SFAs sampled for on-site visits, 122 SFAs—96 from the original and 26 from the replacement sample lists—were successfully recruited and participated in the on-site visits.

Once the SFA agreed to participate, the list of schools served by the SFA was reviewed, and up to three schools were selected—one elementary, one middle and one high school—for on-site visits. Since some SFAs do not serve all three types of schools, only one school of each type represented within the SFA was selected. The actual number of schools was dependent on the configuration of the schools within the SFA. For example, if an SFA served only elementary schools then only one elementary school was selected. If an SFA served several elementary schools (grades K-5) and several secondary schools (grades 6-12), then one elementary school and one secondary school were selected. A total of 309 schools were visited across the 122 SFAs recruited for the study.

Although a systematic sample of SFAs was selected and is representative of a broad range of SFAs, the schools visited were not randomly selected and therefore do not represent the universe of schools. Percentages presented in this report should be used as general indicators only.

Table I-3. Number of SFAs Sampled and Recruited for the On-Site Data Collection by SFA Characteristics

SFA characteristics	Number of SFAs on original sample list	Number of SFAs recruited from:		Number of SFAs recruited	Number of SFAs not recruited
		Original sample list	Replacement sample list		
SFA Size					
Small (1-999)	29	20	7	27	2
Medium (1000-4999)	48	37	10	47	1
Large (5000-24999)	36	28	8	36	0
Very Large (25000+)	12	11	1	12	0
Poverty level of SFA					
Low (0-29% F/RP)	36	29	6	35	1
Medium (30%-59% F/RP)	51	37	13	50	1
High (60% or more F/RP)	38	30	7	37	1
Region					
Mid-Atlantic	13	9	5	14	0
Mountain Plains	18	14	2	16	0
Mid-West	25	20	6	26	0
Northeast	13	10	5	15	2
Southeast	14	12	2	14	0
Southwest	21	15	2	17	1
Western	21	16	4	20	0
Total SFAs	125	96	26	122	3

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Section II: School Food Environment

Background

A number of factors influence the overall food and nutrition environment in schools. In addition to reauthorizing CN programs, the HHFKA also included a number of provisions to address and enhance the school nutrition environment to, among other things, reduce childhood obesity. Key provisions in HHFKA include requiring USDA to update school meal standards in a timely manner, expanding USDA's authority in setting standards for competitive foods, and strengthening local wellness policies. Beyond the nutrition standards and wellness policies, there are other factors, such as the school meal scheduling policies, guidance on reimbursable meal components, and eating environment, that may impact student dietary behavior and health.

School meal scheduling policies, which are generally set by the LEA, are a significant component of food service operations that may impact student dietary behavior. Nutritionists and health educators find that children require adequate time to eat their lunch and consume a healthy amount of food (Bhatt, 2009). Factors such as the timing of breakfast and lunch periods, how long those meal periods last, and how long students wait in line to get food can, in turn, affect students' school meal participation and even the nutrients consumed at mealtime (USDA 2007). Taking into account meal scheduling factors, the literature suggests that the meal experience may impact the speed at which students eat. Consequently, students may eat faster and lose control of food intake, often eating more food in a shorter amount of time (Zandian et al., 2012). Specifically, medical research indicates that it takes approximately 20 minutes for the brain to realize that an individual is getting full once he/she starts eating. Experiments show that when people are given a short period of time to eat, they tend to overeat, because they do not feel full within the time allotted. In contrast, when people are given more time to eat, they realize that they are getting full and will taper their consumption (Bhatt, 2009). Recommendations based on school nutrition research suggest that students should be provided at least 20 minutes to eat after they arrive at the table with their food (Conklin, Lambert, and Anderson, 2002).

In addition to the duration of meal time, the time of the day when students eat meals can also impact dietary behavior and health. Among literature that discusses meal timing, food managers have postulated that eating lunch too early (or too late) contributes to students being less hungry and therefore not finishing meals (USDA, 2002). For example, students who have a very early lunch time may not be hungry enough to consume their food. This can lead to skipping the meal, overeating during other times, or selecting less nutritious options (Bhatt, 2009).

Wait times can also influence what a student eats for school meals. Long wait times in meal lines could deter a student from obtaining a reimbursable meal or cause the student to select another option such as an à la carte item that may allow him/her to get through the line faster (SNDA-III).

Information on the components of reimbursable meal information and healthy meal selections can be provided to students at the meal line. Under HHFKA, schools identify components of a reimbursable meal at or near the beginning of serving lines. In Offer versus Serve (OVS) situations, additional guidance is provided on how to select required fruits and vegetables to constitute a reimbursable breakfast or lunch. Providing meal information near the beginning of the

serving line informs students on reimbursable meal components and may impact student decision making and meal selection.

Another factor that influences student dietary behavior and health is the eating environment, which refers to the ambient factors associated with the eating of food, the effort of obtaining food, the social interactions that occur, and the distractions that may be taking place during the meal (Wansink, 2004).

The findings below provide a snapshot of on-site observations and interviews with food service managers about meal scheduling, selection, and the eating environment.

Research questions

Meal Scheduling

- *What is the average amount of time provided to students for breakfast and lunch?*
- *What is the wait time in serving lines?*
- *Are trays available during meal times?*

Meal Selection

- *Are reimbursable and non-reimbursable meals served in separate lines?*
- *Is there signage or instructions provided on how to select appropriate food items for reimbursable and offer vs. serve meals?*

Environment

- *Is the meal space used for other activities during meal time?*
- *What is the condition of the physical space?*
- *Do students properly dispose of their food waste?*
- *What is the level of student movement and noise during meals?*
- *Is there adequate staffing and supervision during meals?*

Results

Meal Scheduling

Table II-1 shows that the majority of schools visited (93 percent) served breakfast. Among the schools that served breakfast, the two most common initial meal start times reported by school food service managers were between 7:00-7:30 a.m. (32 percent) and 7:30-8:00 a.m. (38 percent). Table II-1 also shows that while 71 percent of schools started serving breakfast between 7:00-8:00 a.m., 4 percent started breakfast service before 7:00 a.m. The average start time for breakfast was 7:30 a.m., although some schools started breakfast as early as 6:30 a.m. and as late as 10:00 a.m. (not shown). Appendix Table A-1 shows that middle and high schools typically start serving breakfast around 7:30 a.m. while elementary schools start serving breakfast closer to 8:00 a.m.

Most schools (82 percent) served breakfast in the cafeteria only. Only 6 percent of schools served breakfast exclusively in the classroom. Breakfast times that were earlier, such as before 7:00 a.m. through 8:00 a.m. were almost exclusively held in the cafeterias only. Meal times that were later in the morning increased the likelihood of serving in classrooms (0 percent before 7 a.m. compared to 14 percent at 8:30 a.m. or later). In 77 percent of schools (not shown), the first bus arrived before or at the same time that breakfast started, suggesting that in most schools breakfasts were scheduled around bus schedules to allow students adequate time.

Table II-1. Percentage of Schools with Various Initial Meal Serving Times, SY 2012-13

Breakfast	
	Percentage of schools
Served breakfast	93.2%
Start time of breakfast (n=288¹)	
Before 7:00 a.m.	3.8
7:00-7:30 a.m.	32.3
7:30-8:00 a.m.	38.2
8:00-8:30 a.m.	18.4
8:30 a.m. or later	7.3
	Time
Start time of breakfast (n=288¹)	
Mean	7:38 a.m.
Median	7:30 a.m.
Mode	7:30 a.m.
Lunch	
	Percentage of schools
Start time of lunch service (n=302²)	
Before 10:30 a.m.	8.6%
10:30-11:00 a.m.	32.8
11:00-11:30 a.m.	41.7
11:30 a.m.-12:00 p.m.	15.2
12:00 p.m. or later	1.7
Schools with multiple lunch periods (n=309)	89.0
	Time
Among schools with multiple lunch periods:	
Start time of first lunch period (n=274³)	
Mean	11:02 a.m.
Median	11:00 a.m.
Mode	11:00 a.m.
End time of last lunch period (n=272³)	
Mean	12:37 p.m.
Median	12:47 p.m.
Mode	12:30 p.m.

¹ n equals the 288 schools that served breakfast.

² n is less than 309 due to item non-response.

³ n is less than the 275 schools with more than one lunch period because of item non-response.

Data Source: Food Service Manager Interview Form, questions section I.A2 and section II.A7

For lunch, 75 percent of schools started serving lunch between 10:30 a.m. and 11:30 a.m., and 9 percent of schools started serving lunch before 10:30 a.m. Only 2 percent of schools started serving lunch after 12:00 p.m. Most schools (89 percent) had more than one lunch period. Among schools with more than one lunch period, the most common start time for the first lunch period was 11:00 a.m., and the end time of the last lunch period was typically 12:47 p.m. However, there was considerable variation, with some schools starting the first lunch as early as 9:40 a.m. and others ending the last lunch period as late as 2:15 p.m. (not shown). Among the 26 schools serving the first lunch before 10:30 a.m., almost half were high schools (42 percent), followed by middle schools (34 percent). Seventy-three percent of the schools were low/medium poverty (0-60 percent free or reduced-price lunch (F/RP)), 50 percent were suburban and 38 percent were urban. Appendix Table A-1 shows the start and end times for lunch for each type of school.

For duration of meal times, Table II-2 shows that the most common amount of time (mode) provided for breakfast and lunch was 30. Students who were served breakfast in their classroom had about 10 minutes less than students served breakfast in the cafeteria (not shown). For both meals, the majority of schools fell in the range of 20 to 45 minutes with the most common amount of time across all types of schools being 30 minutes for breakfast and 30 minutes for lunch (shown in Appendix Table A-2). Specifically, Table II-2 shows that 64 percent of the schools visited allowed 30 minutes or less for breakfast, and 45 percent of the schools provided 30 minutes or less for lunch. These short meal times may result in children having less than the recommended 20 minutes of time at the table to eat their meal. At the other end of the spectrum, 10 percent of schools allocated more than 60 minutes for breakfast and 2 percent of the schools gave this amount of time for lunch. Appendix Table A-2 shows that longer meal times were more common in high schools.

Table II-2. Percentage of Schools with Different Meal Time Durations, SY 2012-13

Breakfast	
	Percentage of schools
Served breakfast	93.2%
Length of breakfast (n=288)	
Less than 20 minutes	9.7
20 to 30 minutes	54.2
31 to 45 minutes	20.5
46 to 60 minutes	5.2
More than 60 minutes	10.4
	Minutes
Length of breakfast (n=288)	
Mean	36.6
Median	30.0
Mode	30.0
Lunch	
	Percentage of schools
Length of lunch (n=272¹)	
Less than 20 minutes	10.3%
20 to 30 minutes	34.2
31 to 45 minutes	43.4
46 to 60 minutes	9.9
More than 60 minutes	2.2
	Minutes
Length of lunch (n=272¹)	
Mean	33.9
Median	33.3
Mode	30.0

¹ n is less than 309 because of item non-response.

Data Source: Food Service Manager Interview Form questions section I.2 and section II.A7.

Overall, wait times in line tended to be minimal in the majority of schools and therefore it is unlikely that they affected students' lunch choices as shown in Table II-3. According to cafeteria observations, in 90 percent of schools students were observed waiting less than 5 minutes in line to receive breakfast. Observers evaluated wait times across all lunch lines and found that 71 percent of schools had students waiting less than 5 minutes for lunch, and 26 percent of schools had students waiting for 5-10 minutes. Appendix Table A-3 shows that higher wait times were observed at lunch time in high schools with 59 percent of students waiting less than 5 minutes for lunch.

Table II-3. Percentage of Schools with Different Meal Line Wait Times, SY 2012-13

Meal	Percentage of schools observed to have meal wait times that were:		
	Less than 5 minutes	5-10 minutes	More than 10 minutes or varied
Breakfast (n=283 ¹)	89.8%	9.5%	0.8%
Lunch (n=307 ²)	70.7	26.4	3.0

¹ n is less than 309 because not all schools participated in SBP and item non-response.

² n is less than 309 because of item non-response.

Data Source: Cafeteria Observation Guide questions section I.B21 and section II.B27.

Sixty-five percent (not shown) of schools reported offering reimbursable meals and à la carte items in the same lunch serving lines. Finally, 90 percent of schools (not shown) were observed to have meal trays available for student use during lunch.

Meal Selection

Under HHFKA, beginning with SY 2012-13, schools had to identify the components of the reimbursable meal at or near the beginning of the serving lines. While schools had discretion on how to do this, the intent is that students, servers, and cashiers must be able to identify what constitutes a reimbursable meal prior to the end of the serving line. Additionally, OVS allows students to decline a certain number of the food items offered in a reimbursable lunch or breakfast. Because students must choose at least 3 items under OVS, guidance is provided on what still constitutes a reimbursable lunch and breakfast under OVS. OVS is required in high schools for lunch and is an option for elementary and middle schools for lunch and all schools for breakfast. Meal service observations were conducted in the aggregate and not by cafeteria line.

Table II-4 shows that 81 percent of schools provided information on how to create a reimbursable meal for breakfast. This information is available near or at the beginning of each breakfast serving line in 69 percent of the schools visited. Seventy-seven percent of schools provided information on how to select OVS meals, and more specifically, 79 percent provided information on how to select the required fruits and vegetables when using OVS.

During lunch a higher percentage of schools provided information on meal options compared to breakfast. Almost all schools served lunch in the cafeteria with only a very small percentage of schools serving in both the cafeteria and classroom. Table II-4 shows that 87 percent of schools provided information on how to create a reimbursable meal, 83 percent of schools provided information on how to select OVS meals, and more specifically, 89 percent provided information on how to select the required fruits and vegetables under OVS. In 79 percent of schools the information about choosing a reimbursable lunch was at or near the beginning of the serving

line. Forty-five percent of schools identified food items as healthier food choices. Among these schools, elementary schools were most common (35 percent) followed by middle (32 percent) and then high schools (29 percent).

Table II-4. Percentage of Schools Observed Displaying Information on Meal Options, SY 2012-13

Meal	Percentage of schools that provide information on how to:			
	Create a reimbursable meal	Select OVS meals	Select required fruits and vegetables under OVS	Identify food items as healthier food choices
Breakfast n ²	81.9% 283	77.0% 278	79.1% 278	N/A ¹
Lunch n ³	87.3% 308	82.5% 303	89.0% 300	44.6% 305

¹ N/A means not asked

² n is less than 309 because not all schools participated in the SBP and item non-response.

³ n is less than 309 because of item non-response.

Data Source: Cafeteria Observation Guide questions section I.B8- B10 and section II.B8-B11.

Eating Environment

In general, the schools visited served breakfast in one location and did not have other activities occurring in the same space during the meal period. Specifically, 82 percent of schools (not shown) had students eat breakfast in the cafeteria only, 6 percent were classroom only, and 2 percent were both cafeteria and classroom. The remaining 10 percent of schools provided breakfast in both a cafeteria and gymnasium, satellite location, or hallway in addition to using multi-purpose rooms. Seventy-nine percent of schools (not shown) only used the cafeteria for eating during the meal period. Eighteen percent of schools (not shown) had outdoor space where students were allowed to eat meals. Among the 18 percent with outdoor space, almost all schools had tables, benches, or other seating for students, and half of the schools had the outdoor space covered or enclosed (not shown).

Similar to breakfast, the majority of schools served lunch in one location and did not have other activities occurring in the same space during the meal period. Eighty-eight percent (not shown) of schools had students eat lunch in the cafeteria only, and 86 percent (not shown) of schools only used the cafeteria for eating during the meal period. Twenty-six percent (not shown) of schools had outdoor space where students were allowed to eat meals. Of the 26 percent with outdoor space, almost all schools had tables, benches, or other seating for students, and just over half of the schools had the outdoor space covered or enclosed (not shown).

Almost all schools were observed to have adequate lighting (97 percent, not shown) and cafeteria temperature (94 percent, not shown). Sixty-five percent of schools (not shown) were observed to have tables and chairs in excellent condition.

Table II-5 shows that the majority of schools had clean walls, floor, ceiling, and windows. Of these four parts of the cafeterias, walls (77 percent) and ceilings (76 percent) were less likely to be observed to be clean than floors (89 percent) and windows (99 percent). For 65 percent of schools, all parts (walls, floor, ceiling, and windows) of the cafeteria were clean, while more than one-third of schools (35 percent) had some parts clean and some parts dirty. All parts of the cafeteria were found to be dirty in less than 1 percent of schools visited.

Table II-5. Percentage of Schools with Different Observed Levels of Cleanliness of Parts of the Cafeteria, SY 2012-13

Cleanliness of parts of the cafeteria	Percentage of schools
Part of cafeteria	
Walls clean (n=307) ¹	76.9%
Floors clean (n=297) ¹	88.6
Ceilings clean (n=304) ¹	76.0
Windows clean (n=225) ²	99.1
Number of cafeteria parts clean (n=293)³	
All clean	65.0
Some clean/some dirty	34.4
All dirty	0.7

¹ n is less than 309 because of item non-response.

² n is less than 309 because 81 schools had no windows in meal locations and item non-response.

³ n is less than 309 because of item non-response. If a cafeteria did not have windows, all parts were considered clean (or dirty) if walls, floors, and ceilings were all clean (or all dirty).

Data Source: Cafeteria Observation Guide question section III.Q1.

We assessed waste disposal behaviors during lunch periods since far more students participate in lunch than breakfast. In 61 percent of schools, *all* of the students were observed properly disposing of their food waste during lunch, and in 35 percent of schools, *most* of the students were observed properly disposing of their food waste during lunch (not shown). In the remaining 4 percent of schools, over half were observed to have *some* students properly disposing of their lunch waste. In less than 1 percent of schools, *very few* or *none* of the students were observed properly disposing of their lunch waste.

External factors that may also contribute to the overall eating experience for students are the amounts of movement and noise that occur during the meal period. Staff supervision is one way to help regulate the meal environment so students can self-regulate their food intake. Observed student movement is organized into three categories: a lot (no apparent limits on movement), some (limited movement to throw out trash, get more food, etc.) and none (no movement; all students stayed in seats). Noise level used the same three categories and is defined as a lot (very noisy; have to shout to talk to someone you are sitting next to), some (noisy; have to raise your voice a little to talk to someone sitting next to you) and none (normal to quiet; can speak normally to someone sitting next to you). For staff signaling students to quiet down, “a lot” is defined as 4 times or more, “some” is defined as 1-3 times and “none” is defined as never asking students to quiet down during the meal.

Table II-6 shows that during breakfast over half of schools had a lot of student movement. However, a large majority of observed schools had no elevated noise levels and, as a result, staff did not signal students to quiet down. Only 7 percent of the observed schools had a lot of noise during breakfast, and 13 percent had staff signal students to quiet down. In terms of staffing during

breakfast, 86 percent of schools (not shown) had adult supervision and 94 percent (not shown) appeared to have adequate food service staffing. Among the small portion of schools that were observed to be short staffed during breakfast, adult supervision for students was identified as the area being short staffed compared to a shortage in food service or janitorial staff. Of the 14 percent of schools observed to have staff sitting with the students, half were elementary schools (not shown).

Table II-6. Percentage of Schools with Different Observed Student Movement and Noise Levels During Meal Times, SY 2012-13

Student/staff actions	Percentage of schools with observed student movement and noise levels during meal times		
	A lot	Some	None
Breakfast			
Student Movement (n=255 ¹)	58.0%	35.7%	6.3%
Noise Level (n=256 ¹)	6.6	19.1	74.2
Staff signal students to quiet down (n=233 ¹)	3.6	9.0	87.4
Lunch			
Student movement (n=305 ²)	44.3	45.9	9.8
Noise level (n=306 ²)	17.8	41.5	40.9
Staff signal students to quiet down (n=296 ²)	5.4	30.7	63.9

¹ n is less than 309 because not all schools participated in the SBP and item non-response.

² n is less than 309 because of item non-response.

Data Sources: Cafeteria Observation Guide questions section I.D2, D3, D8 and section II.D2, D4, D9

Similarly, Table II-6 also shows that during lunch time schools generally had less student movement than during breakfast, and less than half the schools had a lot of student movement. However, the noise level during lunch was higher than during breakfast and was observed most often to be at the “some noise” level (42 percent), but a substantial share (41 percent) had none. As a result, in only about a third of schools staff were observed having to signal students to quiet down. Almost all schools were observed to have adult supervision during lunch (97 percent, not shown), and a large majority of schools appeared to have adequate staffing, such as cashiers and food service staff serving meals (92 percent, not shown). Similar to breakfast, among the small portion of schools that were observed to be short staffed during lunch, adult supervision for students was identified as the area being short staffed compared to a shortage in food service or janitorial staff. Twenty-four percent of schools (not shown) were observed to have staff sitting with students.

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Section III: Plate Waste

Background

In accordance with HHFKA's overarching goal to improve the diets of students and reduce childhood obesity, updated nutrition standards for the school meal programs were implemented in SY 2011-12 to align school meals with the latest nutrition science. The updated standards require schools to increase the availability of fruits, vegetables, and whole grains, and to replace higher fat milk with fat-free and low-fat fluid milk in school meals; reduce the levels of sodium, saturated fat, and trans-fat in meals; and meet the nutrition needs of students within their age/grade calorie requirements.⁴

FNS recognizes that more nutritious school meals must be appealing—look and taste good—for students to eat them and has provided support for training and technical assistance and has made materials and recipes available to local meal planners to help prepare appealing meals.⁵ However, a concern expressed in public comments in response to the updated nutrition standards is that students will be exposed to a variety of different types of foods (particularly fruits and vegetables), which they may not be accustomed to eating, and such unfamiliarity could result in a reduction in the student's perception of the meal's appeal, thereby increasing the amount of edible food served to students that is discarded (known as plate waste) (USDA, 2002). A certain percentage of school meals may always be thrown away because schools do not have the capacity to customize portion sizes and food preferences to each student. In addition, there are many other factors that may influence the extent of plate waste: the student's age, sex, and family background; his/her food preferences; the extent to which he/she can choose or refuse specific foods; the serving temperature of the foods; specific forms of preparation or presentation; the time available for students to eat; how hungry they are at meal time; the environment (including cleanliness, comfort, and air or room temperature); and the school staff's interactions with the students during meals (USDA, 2003). However, student dissatisfaction or school inefficiencies may lead to increased plate waste thereby reducing the healthful benefits that children can receive from school nutrition and having cost implications (USDA, 2002).

The last national study of plate waste in NSLP (SNDA-I in SY 1992-1993) found that approximately 12 percent of calories from school meals and up to 15 percent of individual nutrients were wasted (USDA, 2002), and national plate waste data from the Summer Food Service Program (SFSP) indicated that about 33 percent of calories and nutrients served at breakfast and lunch were wasted (USDA, 2003).⁶ Results from smaller school nutrition studies ranged from 10 to 40 percent of food was wasted, which may be a reflection of local variation and different data collection methods (Cohen et al., 2013; Reger, 1996; USDA 1992). In general, studies have also found that fruits and vegetables are more often discarded than entrées and milk (Bark, 1998; Cohen et al., 2013; Reger, 1996; Robichaux, 1985; Smith, 2013; USDA 1992); and while SNDA-I and SFSP did not look at food groups, the nutrients that were most discarded (vitamin A, vitamin C, and folate) are found in fruits and vegetables.

⁴ <http://www.gpo.gov/fdsys/pkg/FR-2013-06-28/pdf/2013-15249.pdf>

⁵ <http://www.fns.usda.gov/school-meals/faqs>

⁶ According to Jonathan Bloom in *American Wasteland* (Cambridge: Da Capo Press, 2010), on average diners at restaurants leave 17 percent of their meals uneaten and 55 percent of these potential leftovers are not taken home.

Results from SNDA-I and smaller studies offer strategies for plate waste reduction. In SNDA-I, the OVS option was found to reduce plate waste significantly, with minimal reduction in nutrient intake. Meal timing can also impact plate waste; Bergman et al. (2004) found students ate more and wasted less when served lunch at 12:30 p.m. compared to 11:30 a.m. Tailoring portion sizes and providing nutrition education have also been successfully used to decrease plate waste (USDA, 2002). Another relatively new strategy that may mitigate plate waste is the introduction of “trading” tables where students can put packaged food items they have not opened so other students can take them.

The findings below provide a snapshot of observational on-site and school food service manager data for meal plate waste after the implementation of most of the updated meal pattern requirements. The findings also explore reasons for change in plate waste, meal appeal, and availability of trading tables.

Research Questions

- *How much food is tossed into waste disposal containers?*
- *Has plate waste changed since implementing the updated meal pattern requirements for lunch?*
- *What are the reasons for the change in plate waste?*
- *Is the reimbursable meal appealing?*
- *Are trading tables available?*

Results

The study collected data on two measures of plate waste. First, an estimate of *the change in plate waste since implementation of new meal pattern requirements* was obtained from the school food service manager at each school on the observation day for six food groups—fluid milk, main dish/entrée, bread/bread alternative, vegetables (raw or cooked), fruit, and dessert. In contrast, staff observing meal service were asked to estimate *current plate waste levels* in terms of whether none, some, about half, or most/all of the foods in a food group were discarded. Observations were conducted in aggregate and not for each cafeteria line, among all trays returned by students during one lunch period if there were multiple periods and a portion of the lunch period in schools with only one period. At the majority of schools, “some” plate waste (defined as more than none but less than half) was observed for each food item except dessert. While there was some variation by food item between breakfast and lunch, overall less waste was observed during breakfast.

Consistent with previous findings, Table III-1 shows that the food groups with the highest percentages of “most/all” wastage during lunch were cooked vegetables (21 percent), salad/raw vegetables (13 percent), and fruit (12 percent). Of note, among the 309 schools visited, four schools had “all” cooked vegetables discarded, two schools had “all” fruit discarded, and one school had “all” salad/raw vegetables discarded. Although the sample sizes are quite small for some food groups when we view by school type, we find that for commonly served foods, elementary schools tend to have greater plate waste. For example, 15 percent of elementary schools, 9 percent of middle

schools, and 5 percent of high schools were observed having half or more plate wastage for the main course/entrée during lunch.

Table III-1. Percentage of Schools with Observed Plate Waste During Breakfast and Lunch, SY 2012-13

Food items	Percentage of schools with observed plate waste			
	None	Some	About half	Most/All ¹
Breakfast				
Fluid milk (n=284 ²)	30.3%	60.6%	7.8%	1.4%
Main dish/entrée (n=251 ²)	36.7	57.8	4.8	0.8
Bread/bread alternate (n=255 ²)	32.2	59.2	6.7	2.0
Salad/raw vegetables (n=13 ²)	46.2	46.2	7.7	0.0
Cooked vegetable s(n=15 ²)	60.0	20.0	6.7	13.3
Fruit (n=222 ²)	25.7	59.5	7.2	7.7
Desserts (n=33 ²)	75.8	24.2	0.0	0.0
Lunch				
Fluid milk (n=299 ³)	22.7	68.9	6.4	2.0
Main dish/entrée (n=300 ³)	20.0	69.7	8.0	2.3
Bread/bread alternate (n=278 ³)	14.0	65.1	15.1	5.8
Salad/raw vegetables (n=264 ³)	9.1	63.6	14.8	12.5
Cooked vegetables (n=238 ³)	11.3	42.9	24.4	21.4
Fruit (n=293 ³)	11.3	56.0	20.8	11.9
Desserts (n=87 ³)	75.9	21.8	2.3	0.0

¹ n is less than 1 percent of schools reported “all” food waste by salad and fruit; 1 percent of schools reported “all” for cooked vegetables.

² n is less than 309 because not all schools participated in the SBP, not all schools served all food items, and item non-response.

³ n is less than 309 because not all schools serve all food items and item non-response.

Data Source: Cafeteria Observation Guide questions section I.C1 and section II.C1.

Changes in Plate Waste

In addition to observing plate waste, school food service managers were interviewed about their perceptions regarding the change in wastage since the implementation of updated meal pattern requirements. The majority of food managers reported “no change” in plate waste for all food items except salad/raw vegetables, cooked vegetables, and fruit, which were the three food groups observed to have the highest plate waste. As Table III-2 shows, 37 to 47 percent of the school food service managers said students have wasted more of these food group items since the implementation of the updated meal requirements. For the remaining food items, the most common response was “no change” in wastage. Specifically, 82 percent of school food service managers reported no change in waste of fluid milk; 73 percent reported no change in main dish/entrée; and 64 to 65 percent reported no change in desserts or bread/bread alternative, respectively. Finally, 10 to 14 percent of the school food service managers said students wasted less of all food group items except for fruit, for which 20 percent said students wasted less.

Table. III-2. Percentage of Schools in which Food Service Managers Report Changes in Plate Waste Since Implementation of New Meal Pattern Requirements, SY 2012-13

Food	Percentage of schools			
	Students waste more	Students waste less	No change in waste	Don't know
Fluid milk (n=307 ¹)	4.2%	11.1%	82.1%	2.6%
Main dish/entrée (n=303 ¹)	12.2	13.2	72.6	2.0
Bread/bread alternate (n=306 ¹)	20.9	12.4	64.4	2.3
Salad/raw vegetables (n=302 ¹)	42.7	13.6	40.1	3.6
Cooked vegetables (n=305 ¹)	46.6	10.2	40.7	2.6
Fruit (n=305 ¹)	37.1	20.0	41.3	1.6
Desserts (n=218 ²)	0.5	10.1	64.7	24.8

¹ n is less than 309 because not all schools serve all food items and item non-response.

² n is less than 309 because 89 schools (28.8 percent) reported that desserts were not applicable and item non-response.

Data Source: Food Service Manager Interview Form question A13.

As Table III-3 indicates, among school food service managers who reported any change in plate waste, “type of food served” was the most commonly cited reason for the change (77 percent), followed by “amount of food served” (34 percent). Additional reasons given included the “amount of time available to eat” (8 percent) as well as “other” reasons such as being forced to take fruits and vegetables and students socializing.

Table III-3. Among Schools Reporting a Change in Plate Waste, the Percentage of Schools Reporting Different Reasons for the Change, SY 2012-13

Reported reason for change in plate waste (n=256 ¹)	Percentage of schools
Type of food served	77.3%
Amount of food served	33.6
Other ²	19.5
Amount of time available to eat	7.8

¹ 256 managers responded that there was some change in plate waste.

² Most common responses for “other” were food regulations, being forced to take fruits and vegetables, and students socializing. Respondents could provide multiple responses.

Data Source: Food Service Manager Interview Form question A14.

Meal Appeal

To evaluate whether the plate waste was a reflection of how the food looked and tasted, observers assessed the appeal of food served during lunch using operationally defined criteria. The seven criteria included: (1) color of fresh/cooked vegetables; (2) did fresh fruits/vegetables look fresh or old (brown spots, wilted etc.); (3) did cooked vegetables look crisp or limp/mushy; (4) was the presentation of the food neat or messy on the plate; (5) did the food look over cooked; (6) did the dish smell pleasing; and (7) overall appearance of the plate. Based on these criteria, the lunch was assigned to one of five categories: “very appealing,” “appealing,” “ok” (defined as half appealing, half unappealing), “unappealing or very unappealing.” These categories were further collapsed to two groups: very appealing/appealing and ok/unappealing.

Observers indicated that the overwhelming majority of schools served meals that were very appealing/appealing. As Table III-4 shows, almost 82 percent of schools served lunches that were observed to be very appealing/appealing, while only 18 percent served lunches where at least half of the lunch was assessed as being unappealing. There were no observations in the very unappealing category.

Table III-4. Percentage of Schools with Different Degrees of Observed Lunch Meal Appeal, SY 2012-13

Meal appeal	Percentage of schools (n=307 ¹)
Very appealing/appealing	81.8%
Ok/unappealing ²	18.2

¹ n is less than 309 due to item non-response.

² OK indicates that half of the lunch was observed to be appealing and half was unappealing.

Data Source: Cafeteria Observation Guide question B.22.

The level of appeal of lunch was associated with less plate waste. To examine the relationship between appeal and plate waste, overall lunch plate waste was calculated based on the level of lunch plate waste for five food items (main dish/entrée, bread/bread alternate, vegetable, fruit, and milk).⁷ The contribution of each food item to overall plate waste was weighted based on how much of the lunch each food item typically comprised, with heavier weight given to the main/dish entrée than to bread/bread alternates, vegetables, fruits, or milk (40 percent for the main dish/entrée, 6 percent for milk, and 18 percent each for bread/bread alternate, vegetables, and fruits). Schools at or above the median overall plate waste were considered to have “high” lunch plate waste; those below the median were considered to have “low” lunch plate waste.⁸

Table III-5 suggests that observed current plate waste was generally high even when the meal was appealing but was higher when the meal was not appealing. Among schools with very appealing/appealing lunches, 54 percent had a high observed current plate waste score, while 46 percent had low plate waste. Conversely, almost 71 percent of schools with meals in the ok/unappealing category had a high plate waste score, while only 29 percent of these schools had low plate waste based on current observations. When looking across school type (not shown), elementary schools had the largest percentage of high plate waste (63 percent) followed by middle schools (58 percent) and high schools (51 percent).

⁷ For the purposes of calculating average plate waste, the plate waste for salad/raw vegetables and cooked vegetables was averaged to create a single category of plate waste for vegetables. Desserts were not included in average plate waste because a large percentage of schools did not serve dessert and because plate waste was very low for dessert.

⁸ The median overall plate waste was 2. Schools with “high” plate waste are those in which, on average, some or more of the lunch is wasted.

Table III-5. Percentage of Schools with Different Degrees of Observed Lunch Plate Waste by Meal Appeal, SY 2012-13

Meal appeal	Percentage of schools observing current plate waste ¹ (n=284 ²)	
	Low plate waste	High plate waste
Very appealing/appealing (n=233)	46.4%	53.7%
Ok/unappealing (n=51)	29.4	70.6

¹ An overall food waste score was calculated for each food item and then weighted based on the importance of the item in the meal schools as follows: Weighted average = .4*entrée + .06*milk + .18*bread + .18*vegetable + .18*fruit. High food waste is defined as the overall food waste score of 2 or greater (the median food waste score).

² n is less than 309 due to item non-response.

Data Source: Cafeteria Observation Guide questions section II B22, section I.C1 and section II.C1

Trading Tables

A trading table in the cafeteria that allows students to give away food they do not intend to eat is one strategy being used to reduce plate waste in some schools. As Table III-6 shows, the percentage of schools that offered trading tables was relatively low with 27 percent of schools offering trading tables during breakfast and 25 percent during lunch. Also, the use of trading tables varied by school type and SFA characteristics. Elementary and middle schools were more likely to have trading tables than high schools or other school types, and schools in smaller SFAs were more likely to have trading tables than schools in larger SFAs.

Table III-6. Percentage of Schools that Offered Trading Tables During Breakfast and Lunch by SFA Characteristics, SY 2012-13

SFA characteristics	Percentage of schools where trading tables are available	n
Breakfast		
All schools	27.3%	256 ¹
SFA size		
Small/medium (1-4999)	30.3	132
Large/very large (5000+)	24.2	124
Poverty level		
Low/medium (0-59% F/RP)	28.4	183
High (60% or more F/FP)	24.7	73
School type		
Elementary	34.2	82
Middle	32.4	68
High	19.0	79
Other	18.5	27
Lunch		
All schools	24.8	307 ¹
SFA size		
Small/medium (1-4999)	30.2	169
Large/very large (5000+)	18.1	138
Poverty level		
Low/medium (0-59% F/RP)	24.9	221
High (60% or more F/FP)	24.4	86
School type		
Elementary	29.3	106
Middle	24.7	77
High	17.1	88
Other	30.6	36

¹Total n is less than 309 because not all schools participated in the SBP and item non-response.

Data Source: Cafeteria Observation Guide questions section I.D9 and section II.D10.

There is evidence suggesting that trading tables may have an impact on plate waste. As shown in Table III-7, 51 percent of schools with trading tables at lunch had a low plate waste score compared to 41 percent of the schools without trading tables. However, there was no strong relationship between the presence of trading tables at breakfast and plate waste at breakfast. This may be partly due to the relatively low levels of plate waste observed during breakfast.

Table III-7. Percentage of Schools with Observed Plate Waste at Breakfast and Lunch, by the Presence of Trading Tables, SY 2012-13

Meal	Percentage of schools with observed plate waste ¹ by presence of trading tables	
	Low breakfast plate waste	High breakfast plate waste
Breakfast (n=241²)		
Breakfast trading table (n=64)	84.4%	15.6%
No breakfast trading table (n=177)	83.1	17.0
Lunch (n=282³)	Low lunch plate waste	High lunch plate waste
Lunch trading table (n=69)	50.7	49.3
No lunch trading table (n=213)	41.3	58.7

¹ An overall food waste score was calculated for each food item and then weighted based on the importance of the item in the meal schools as follows: Weighted average = .4*entrée + .06*milk + .18*bread +.18*vegetable +.18*fruit. High food waste is defined as the overall food waste score of 2 or greater (the median food waste score).

² n is less than the 288 schools that served breakfast because of item non-response.

³ n is less than 309 because of item non-response.

Data Source: Cafeteria Observation Guide questions section I.C1, D9 and section II.C1, D10.

Section IV: Competitive Foods

Background

Many leading health authorities recognize the important role schools play in promoting health and preventing obesity among youth. A growing body of evidence shows that school-based policies regarding foods, beverages, and physical activity affect students' diets and their weight (Turner et al., 2013). Products offered in schools outside of the USDA meal programs—often called competitive foods and beverages—include items sold in vending machines, school stores, and snack bars, or à la carte in the cafeteria. Prior research indicates that competitive foods are widely available to students in schools, especially in middle schools and high schools. The most common sources of competitive foods are à la carte sales, fundraisers, and vending machines (SNDA-III).

Over the years, the types and locations of competitive foods have increased significantly, causing school administrators, public health experts, and policy makers to express concerns about the potential negative impact such foods may have on student health. Competitive foods may impact the viability of school meal programs because students who purchase these foods may be less likely to eat a reimbursable school meal. While à la carte sales bring additional revenues to school food service programs, declining participation in the school meal programs can undermine the program's ability to contribute to children's health, well-being, and academic achievement (Watkins, 2001).

HHFKA provided USDA with greater authority to regulate the sale of competitive foods in schools. Specifically, HHFKA requires USDA to set nutrition standards for competitive foods sold on school campuses at any time during the school day. The nutrition standards draw on recommendations from the IOM Nutrition Standards for Foods in Schools report, existing voluntary standards already implemented in schools around the country, and healthy food and beverage offerings already available in the marketplace. In June 2013, USDA issued an interim final rule establishing nutrition standards for foods and beverages sold outside of the school meal programs, including limits on the amount of calories, fat, saturated fat, sugar, and sodium allowed per serving.⁹ The nutrition standards for competitive foods take effect starting July 1, 2014.

In addition to setting standards for competitive foods, HHFKA also requires that all non-reimbursable foods sold in schools must generate revenue at least equal to their cost, to ensure that Federal reimbursement for school meals is not being used to offset any costs associated with the purchase, preparation, or sale of competitive foods. Ultimately, this provision may affect relative prices and the demand for competitive foods which, in turn, can potentially impact what is offered in schools. This provision took effect on July 1, 2011.

Many school districts already have school policies that address the nutrition content of competitive foods sold in school, but compliance has been weak. A nationally representative study of school district wellness policies from school years (SY) 2006-07 through 2010-11 found that there was a wide gap in compliance among the mandatory policy provisions primarily because many

⁹ U.S. Department of Agriculture, Food and Nutrition Service. 2013. "National School Lunch Program and School Breakfast Program: Nutrition Standards for All Foods Sold in School as Required by the Healthy, Hunger-Free Kids Act of 2010: Proposed Rules," *Federal Register*. Vol. 78, No. 125, Jun <http://www.gpo.gov/fdsys/pkg/FR-2013-06-28/pdf/2013-15249.pdf>. 28,

districts had not adopted competitive food and beverage guidelines (Turner et al., 2013). For example, at the beginning of school year 2010-11, 95 percent of students were in a district with a policy that included goals for nutrition; 91 percent were in a district with guidelines for school meals; yet only 61 percent of students were in a district with competitive food and beverage guidelines (Turner et al 2013). School district policies were also more likely to limit items in vending machines than school stores and à la carte venues (Turner et al., 2013).

This chapter provides information about the availability of competitive food sources in schools prior to the implementation of the updated nutrition regulations, but after the pricing changes took effect in SY 2011-12. The location and hours of competitive food sources and the types of food items offered are presented. Because prior research shows that the availability of competitive foods varies widely by grade level, many results are presented separately for elementary, middle, and high schools.

Research Questions

- *What percent of students pack lunch instead of buying foods at school? Is there access to a microwave for students to reheat foods brought from home?*
- *To what extent are competitive foods available to students in schools? Does availability of competitive foods vary by grade level?*
- *What types of competitive foods are offered to students in schools?*
- *Have SEAs/schools made changes in the availability of competitive foods over the past 2 years? In which areas? What changes were made?*
- *Who makes decisions about competitive foods? Have parents provided input? How do parents provide input?*

Results

For meals at schools, students can choose between having a reimbursable meal, purchasing competitive food items, or bringing food from home. Both reimbursable and competitive food items must adhere to Federal and local nutrition standards for those types of foods.

Packed Lunches and Microwave Accessibility

Students who do not like the menu may bring a lunch from home instead of purchasing food at school. Data collected from cafeteria observations indicate that at most schools it is less common for students to bring lunch than it is for students to get food at school. This suggests that the majority of food consumed in school falls under the school meal nutrition standards.

Table IV-1 shows that in about half of schools (49 percent) less than 10 percent of students bring their lunch from home. By comparison, only 12 percent of schools had more than 50 percent of students bring their lunch. Slightly more high schools (54 percent) had less than 10 percent of their students bringing lunch than did elementary schools (43 percent) or middle schools (51 percent). Thus, in most schools, especially middle and high schools, the majority of students purchase food items at school and are therefore likely to be impacted by the competitive foods available and the new meal pattern standards stemming from the HFFKA.

Schools may also make microwaves available to students to reheat food they may have brought from home. Making a microwave available might encourage students to bring their lunch rather than purchase foods at school. Table IV-1 shows that 25 percent of the schools provided microwaves so students could reheat foods they brought from home. Given microwaves take some knowledge to operate, it is not surprising that a higher percentage of middle schools (27 percent) and high schools (32 percent) made microwaves available to students than did elementary schools (17 percent).

Table IV-1. Percentage of Schools with Microwaves Accessible During Meals and Percentage of Schools where Students Bring their Lunch, by School Type, SY 2012-13

	Percentage of schools				
	Elementary	Middle	High	Other	All schools
Microwave is available for students to use	17.0	26.9	31.8	30.6	25.3
n	106	78	88	36	308
Students bringing lunch					
Less than 10%	43.4%	51.3%	53.5%	47.1%	48.7%
10% to 25%	28.3	22.4	18.6	23.5	23.5
26% to 50%	17.0	15.8	12.8	17.7	15.6
More than 50%	11.3	10.5	15.1	11.8	12.3
n	106	76	86	34	302

n is less than the 309 schools (107 elementary schools, 78 middle schools, 88 high schools, and 36 other schools) due to item non-response.
Data Source: Cafeteria Observation Guide questions B23 and B25.

Availability of Competitive Foods in Schools

Types of Competitive Food Sources

Competitive foods were widely available to students in schools. On-site observations revealed that nearly three in four schools offered food items to students via competitive food sources. Table IV-2 shows that 73 percent of schools offered competitive foods. Competitive foods were more likely to be available in middle and high schools than in elementary schools. Nearly all high schools (99 percent) and most middle schools (87 percent) made competitive foods available compared to less than half of elementary schools (39 percent). À la carte food lines (52 percent) and vending machines (52 percent) were the most common sources of competitive foods found in schools. À la carte food lines were the most common source of competitive foods found in elementary schools (33 percent) and middle schools (63 percent), whereas vending machines were the most common source in high schools (94 percent). In fact, vending machines were found in only 5 percent of elementary schools compared to 62 percent of middle schools and 94 percent of high schools. Competitive food sources other than à la carte food lines and vending machines were much less common. Overall, school stores, snack bars, and food carts were found in 13 percent, 6 percent, and 4 percent of all schools, respectively. Only 2 percent of schools had some other source of competitive food. In total, 21 percent of schools had a competitive food source other than à la carte lines or vending machines (not shown).

Schools can make more than one source of competitive food available to students. On average (median) students across all schools have 5 sources for competitive foods available to them. Students in elementary schools typically have only 1 source while students in middle schools have 3 and high school students have, on average, 7 sources available due to the multiple sites for vending machines. Few schools offer competitive foods through school stores, snack bars or food carts. When these any of these sources are present there is typically only 1 available within the school.

The most common combination of sources was for schools to offer à la carte lines only or à la carte lines along with other competitive food sources. More than half of schools offered à la carte lines only or in addition to other competitive food sources. For example, 16 percent of schools offered à la carte lines only; 21 percent offered à la carte lines and vending machines; and 12 percent offered competitive foods from all sources (à la carte lines, vending machines, and at least one other source such as school stores, snack bars, food carts, and other sources). Elementary schools (30 percent) were more likely than middle schools (18 percent) and high schools (0 percent) to have à la carte lines only. By contrast, high schools offered more competitive food sources to students than elementary or middle schools. Nearly one-third (32 percent) of high schools had competitive foods available from all sources compared to only 8 percent of middle schools. No elementary schools in the study had competitive foods available from all sources.

These findings are consistent with results from SY 2004-05 from SNDA-III, which showed that competitive foods were widespread in schools, especially in middle and high schools, and that à la carte lines and vending machines were the most common sources.

Table IV-2. Percentage of Schools with Competitive Foods Available from Various Sources, by School Type, SY 2012-13

	Percentage of schools				
	Elementary (n=107)	Middle (n=78)	High (n=88)	Other (n=36)	All schools (n=309)
Competitive food source					
À la carte lines	32.7%	62.8%	69.3%	38.9%	51.5%
School store	1.9	7.7	35.3	2.8	12.9
Snack bar	0.0	6.4	12.5	2.8	5.5
Food cart	1.9	3.9	5.7	2.8	3.6
Vending machines	4.7	61.5	94.3	63.9	51.5
Other	0.9	1.3	4.6	2.8	2.3
Combination of competitive food sources					
À la carte lines only	29.9	18.0	0.0	8.3	15.9
Vending machines only	3.7	19.2	15.9	33.3	14.6
Other sources only	2.8	2.6	3.4	0.0	2.6
À la carte lines and vending machines	0.9	32.1	36.4	22.2	21.4
À la carte lines and other sources	1.8	5.1	1.1	2.8	2.6
Vending machines and other sources	0.0	2.6	10.2	2.8	3.9
All three sources (à la carte lines, vending machines, and other sources)	0.0	7.7	31.8	5.6	11.7
Any competitive food source	39.3	87.2	99.0	75.0	72.5

Data Source: Other Food Sources Checklist, question 1; Vending Machine Checklist, question 1.

Location and Hours of Competitive Food Sources

À La Carte Lines

All 159 schools with à la carte lines operated them in the cafeteria (not shown). Table IV-3 shows that among schools with à la carte lines, 96 percent operated them during lunch and 50 percent during breakfast. Nine percent of schools made à la carte lines available during the school day outside of breakfast and lunch, and 7 percent made them available before the school day starts or after the school day ends. À la carte lines were more likely to operate during breakfast in middle and high schools than in elementary schools. For example, à la carte lines operated during breakfast in 37 percent of elementary schools compared to 49 percent of middle schools and 59 percent of high schools. À la carte lines were also more likely to operate at other times during the school day in high schools than in elementary and middle schools. When à la carte lines operated outside of the school day, it was almost always in the morning.

Table IV-3. Among Schools with À La Carte Lines, Percentage of Schools with Various Hours of Operation of À La Carte Lines, by School Type, SY 2012-13

	Among schools with à la carte lines, percentage of schools with various hours of operation				
	Elementary (n=35)	Middle (n=49)	High (n=61)	Other (n=14)	All Schools (n=159)
Hours of operation of competitive food source					
During breakfast	37.1%	50.0%	59.0%	42.9%	50.3%
During lunch	97.1	93.9	98.4	85.7	95.6
During the school day outside of breakfast and lunch	5.7	4.1	14.8	14.3	9.4
Before the school day starts or after the school day ends ¹	2.9	4.1	9.9	14.3	6.9

¹ Only 2 schools indicated that à la carte lines were available after the last class of the school day. Additional information is not available.
Data Source: Other Food Source Checklist, question 2.

Vending Machines

Table IV-4 shows that about half of schools had one or more vending machines on campus. On average, schools had about 4 vending machines each. Middle and high schools had a greater number of vending machines on campus than did elementary schools. Table IV-4 shows that among all schools, 30 percent had 1 to 3 vending machines on campus, 12 percent had 4 to 6 vending machines, and 10 percent had 6 or more vending machines. Only 3 percent of elementary schools had 1 to 3 vending machines on campus versus 49 percent of middle schools and 41 percent of high schools. By comparison, 31 percent of high schools had 6 or more vending machines.

Table IV-4. Percentage of Schools with Various Numbers of Vending Machines on Campus, by School Type, SY 2012-13

	Percentage of schools with various numbers of vending machines				
	Elementary (n=106)	Middle (n=77)	High (n=88)	Other (n=36)	All Schools (n=307)
Number of vending machines					
No machines	96.3%	39.0%	5.7%	36.1%	48.9%
1 to 3 machines	2.8	49.4	40.9	41.7	30.0
4 to 6 machines	0.0	11.7	22.7	19.4	11.7
More than 6 machines	0.9	0.0	30.7	2.8	9.5
Among schools with vending machines					
Mean number of machines	--	2.4	6.1	2.9	4.4
Median	--	2.0	4.0	2.2	3.0

n is less than the 309 schools (107 elementary schools and 78 middle schools) due to item non-response.

-- indicates sample size is 5 or less and too small to report.

Data Source: Other Food Source Checklist question 2.

As shown in Table IV-5, among schools with vending machines, 71 percent of the school food service managers reported that these vending machines were available to students for purchasing items during the school-day.¹⁰ The remaining 29 percent of schools reported that their vending machines were only accessible outside of school day hours. Table IV-5 also shows that vending machines were more likely to be available to students during the school day in high schools than in middle schools. For example, 84 percent of high schools made vending machines available to students at some time during the school day compared to 47 percent of middle schools. Among schools in which vending machines were accessible at some time during the school day, 79 percent allowed students to purchase items during breakfast and lunch.

Table IV-5 also shows that among schools with vending machines, the vending machines tended to be located not just in or near the food service area but also in other locations in the school building. For example, although 48 percent of schools had vending machines in the food service area, and 37 percent had vending machines adjacent to the food service area, 49 percent had vending machines elsewhere in the school building. Only 5 percent of schools had vending machines located outside of the school building. Vending machines were more likely to be located in places other than in or near the food service area in high schools than in middle schools. For example, vending machines were located elsewhere in the school building in 59 percent of high schools compared to only 30 percent of middle schools. Only 8 percent of high schools had vending machines outside of the school building. No middle schools had vending machines outside the school building.

Table IV-5. Among Schools with Vending Machines, the Percentage of Schools with Various Availability and Location, by School Type, SY 2012-13

	Among schools with vending machines, the percentage of schools with various availability and locations				
	Elementary	Middle	High	Other	All schools
Vending machines available anytime during the school day	--	47.9%	84.2%	73.9%	70.9%
n	5	48	82	23	158
Location of vending machines					
Inside the food service area	--	44.7	53.0	39.1	48.4
Adjacent to food service area (within 20 feet)	--	40.3	39.8	26.1	36.9
Elsewhere inside of the school building	--	29.8	59.0	47.8	49.0
Outside of the school building	--	0.0	8.4	0.0	4.5
n	4	47	83	23	157

n is less than the 159 schools, 5 elementary schools, 48 middle schools, 83 high schools, and 23 other schools with vending machines because of item non-response; n differs for the two items because vending machine hours are from the Food Serve Manager Form and vending machine location is from the Vending Machine Checklist.

-- indicates sample size 5 or less and too small to report

Data Source: Food Service Manager Form SY2012-13, question B.8 and Vending Machine Checklist question 1.

¹⁰ Although available to students during the school day, some schools only permit students to purchase items from vending machines during meal times.

Other Competitive Food Sources

Table IV-6 shows that 64 schools made competitive foods available to students from sources other than à la carte lines or vending machines (school stores, snack bars, food carts, and other sources). For these schools, these competitive food sources were most likely to be located either adjacent to the food service area (45 percent of schools) or elsewhere in the school (52 percent of schools). These competitive food sources were available in the food service area in 14 percent of schools. Only 5 percent of schools made these competitive food sources available outside of the school building. The location of competitive food sources outside of the food service area was more common in high schools than in middle schools. For example, 43 percent of middle schools had school stores, snack bars, and food carts available elsewhere in the school building compared to 61 percent of high schools.

Table IV-6 also shows that competitive foods from school stores, snack bars, food carts, and other sources was most likely to be available to students during lunch although they rarely operated within the food service area. In the few schools with these alternative sources for competitive foods, school stores and food carts were generally located either adjacent to the food service area (35 percent and 46 percent of schools, respectively) or elsewhere in the building (45 and 46 percent of schools, respectively). Snack bars were frequently located adjacent to the food service area (71 percent of schools).

Seventy-five percent of schools with these types of competitive food sources operated them during lunch. School stores, snack bars, and food carts were less likely to be available during breakfast (25 percent of schools). These competitive food sources were available to students during the school day outside of breakfast and lunch in 36 percent of schools and before and after the school day in 27 percent of schools. These competitive food sources were generally more likely to be open during breakfast and outside of school meals in high schools than in middle schools. For example, among schools with these competitive food sources, they were open during breakfast in 14 percent of middle schools compared to 29 percent of high schools. Similarly, these competitive food sources operated at other times during the school day in 21 percent of middle schools and 44 percent of high schools.

Table IV-6. Among Schools with School Stores, Snack Bars, and Food Carts, Percentage of Schools with Various Locations and Hours of Operation of Competitive Food Sources, by School Type, SY 2012-13

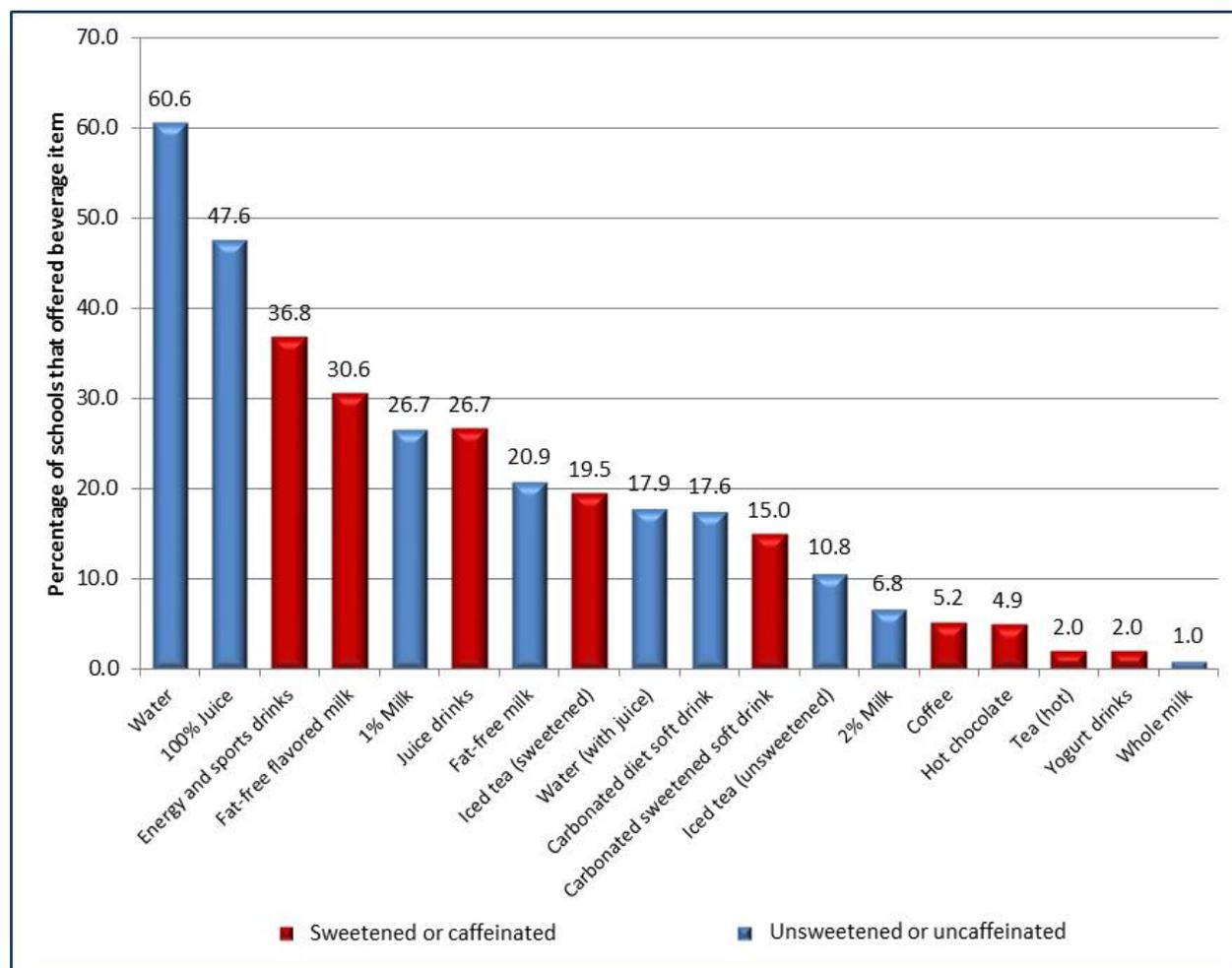
	Among schools with competitive food sources other than à la carte and vending machines, percentage of schools with various locations and hours of operation				
	Elementary (n=5)	Middle (n=14)	High (n=41)	Other (n=4)	All schools (n=179)
Location of competitive food source					
Inside the food service area	--	7.1%	14.6%	--	14.1%
Adjacent to food service area (within 20 feet)	--	50.0	43.9	--	45.3
Elsewhere inside of the school building	--	42.9	61.0	--	51.6
Outside of the school building	--	0.0	4.9	--	4.7
Hours of operation of competitive food source					
During breakfast	--	14.3	29.2	--	25.0
During lunch	--	57.2	85.4	--	75.0
During the school day outside of breakfast and lunch	--	21.4	43.9	--	35.9
Before the school day starts or after the school day ends	--	28.6	26.8	--	26.6

-- indicates sample size 5 or less and too small to report.
Data Source: Other Food Source Checklist, questions 1 and 2.

Types of Competitive Food Items Offered

This section provides analysis of the types of competitive food items offered in the aggregate, and Appendix A (Tables A-4 and A-5) provides a breakdown of these offerings by source (e.g., à la carte lines, school store, etc.) Beverages (including milk) were the most common category of competitive foods available to students and were offered by 70 percent of schools (not shown). Figure IV-1 shows the types of beverages offered by schools across all competitive food venues. More schools offered unsweetened and uncaffeinated beverages than sweetened and caffeinated beverages. For example, water and 100% juice were the most popular beverages, offered by 61 percent and 48 percent of schools, respectively. Fewer schools offered sweetened and caffeinated beverages. Sweetened iced tea was offered in 20 percent of schools, carbonated sweetened soft drinks were offered in 15 percent of schools, and 5 percent of schools offered coffee and hot chocolate. However, energy and sports drinks, which are often high in sugar and caffeine, were the third most popular beverage offered by 37 percent of schools. The fat-free flavored milk was the fourth most common beverage, offered by 31 percent of schools. The findings are in line with recent research suggesting that restrictions on regular soda are increasingly common in school districts, but that restrictions on other sugar-sweetened beverages, such as sports drinks, are lacking (Turner et al., 2013).

Figure IV-1. Beverages Offered by Schools in Any Competitive Food Source, SY 2012-13

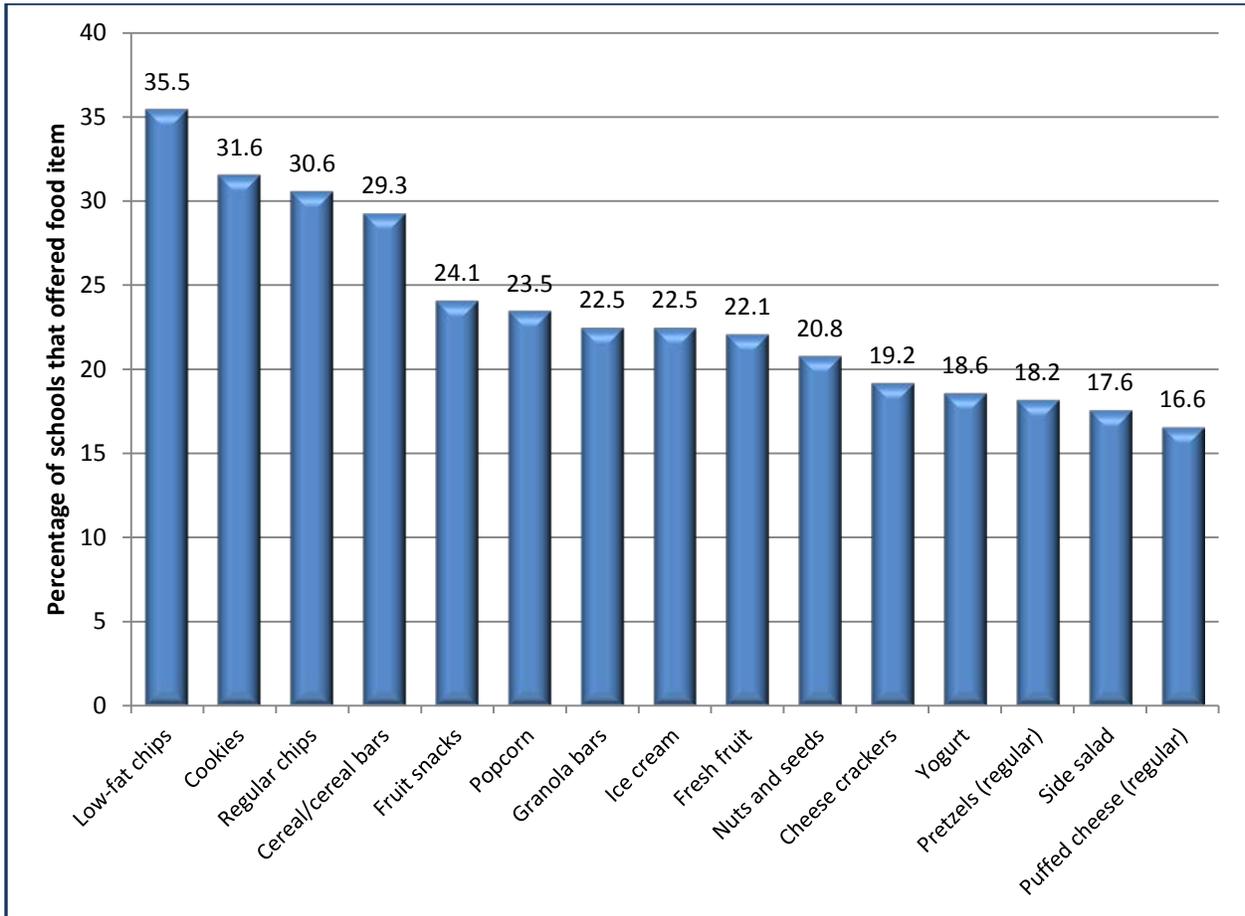


n is 307 and is less than 309 due to item non-response.

Data Source: Other Food Source Checklist question 2 and Vending Machine Checklist question 2.

Figure IV-2 shows the top non-entrée competitive food items offered by schools. Overall, schools offered low-nutrient, energy-dense non-entrée food items just as often as, if not slightly less often than, they did healthier food items. For example, although the top food item was lower fat potato chips (offered by 36 percent of schools), the second most common food item was cookies (32 percent of schools), and the third most common was regular chips (31 percent of schools). Nearly one-in-four schools offered fruit snacks (such as fruit roll-ups and gummies), and 23 percent offered ice cream. Fresh fruit was available from competitive food sources in only 22 percent of schools. Items such as vegetables were even less common, with a side salad being offered in only 18 percent of schools and raw vegetables offered by 16 percent (shown in Appendix A, Table A-4). Candy was offered in about the same percentage of schools as vegetables—candy with and without chocolate was each available in about 14 percent of schools (shown in Appendix A, Table A-4).

Figure IV-2. Top Non-Entrée Food Items Offered by Schools in Any Competitive Food Source, SY 2012-13

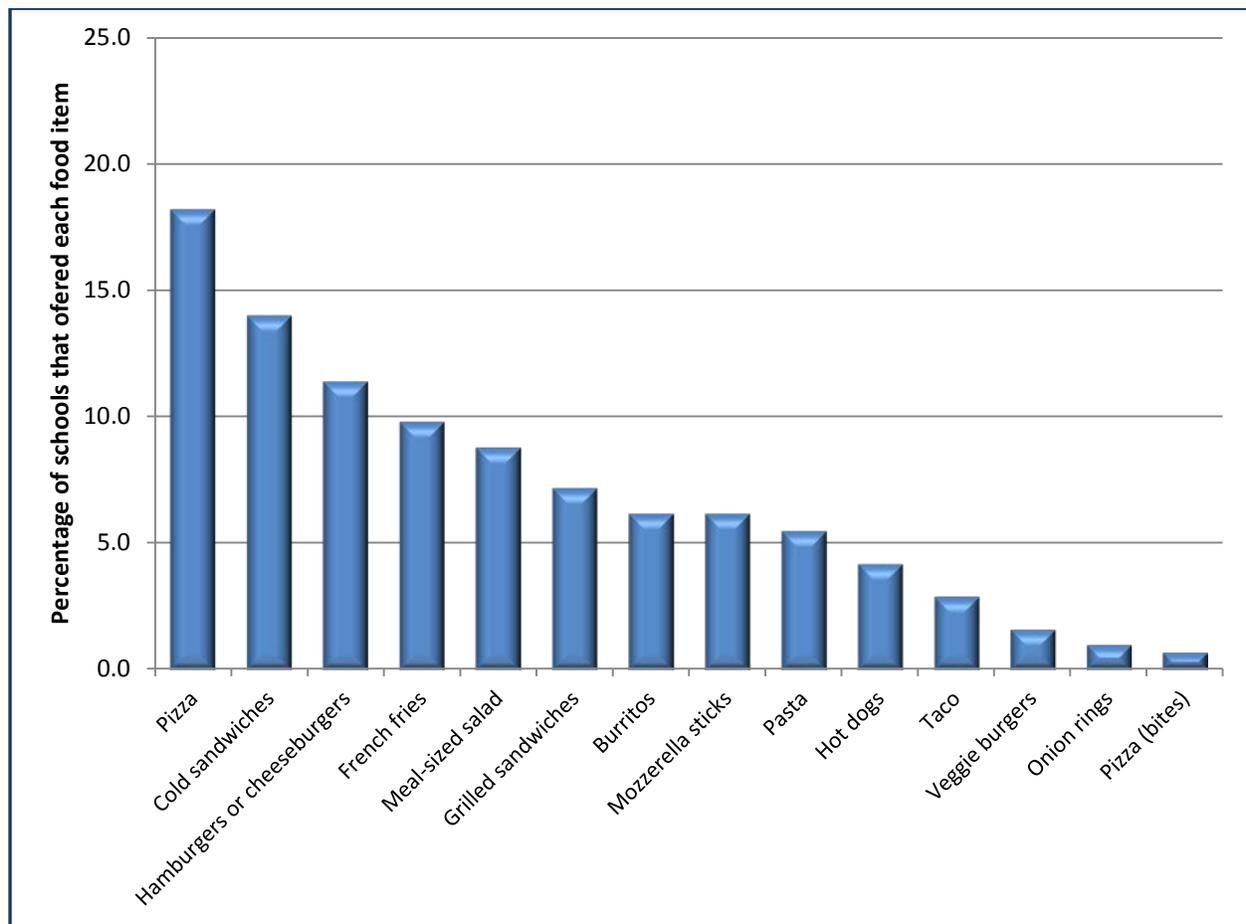


n is 307 and is less than 309 due to item non-response.

Data Source: Other Food Source Checklist question 2 and Vending Machine Checklist question 2.

Figure IV-3 shows that the most common entrée and side food item offered from competitive food sources was pizza (18 percent of schools). Other common items included cold sandwiches (14 percent) and hamburgers or cheeseburgers (11 percent). Only 9 percent of schools offered a meal-sized salad as an entrée.

Figure IV-3. Entrée and Side Food Items Offered by Schools in Any Competitive Food Source, SY 2012-13



n is 307 and is less than 309 due to item non-response.

Data Source: Other Food Source Checklist question 2 and Vending Machine Checklist question 2.

Appendix Table A-4 shows the percentage of schools that offered each food item by food source. There were some differences among the various competitive food sources in terms of the food items they sold. À la carte lines tended to sell a variety of foods, including beverages, entrées, and bread products. In contrast, school stores tended to focus on snacks, while vending machines focused on beverages and snacks. Appendix Table A-5 shows the percentage of schools that allowed students to purchase each competitive food item during breakfast and lunch from vending machines located within or adjacent to the food service area. Beverages were the most common items available in vending machines operating during breakfast and lunch.

Changes in the Availability of Competitive Foods

As discussed above, under HHFKA, USDA has issued nutritional guidelines for competitive foods available in schools. Although at the time of data collection the Smart Snacks Regulation, nutrition standards for competitive foods, had not yet gone into effect, Table IV-7 shows that 29 percent of school food service managers reported that they had already made changes to the availability of competitive foods over the past two years. These changes may be a result of modifications to local school wellness policies, which were mandated under the Child Nutrition and WIC Reauthorization of 2004 and strengthened under the HHFKA of 2010. Table IV-4 also shows that among schools that reported having made changes, the most common change across all food source venues was the change in the types of foods available. Consistent with reports on competitive food policies, change in type of foods available was highest for à la carte items and vending machines. For example, among schools that made a change to competitive foods, 81 percent made a change to à la carte items, and 49 percent made a change to vending machines (not shown). In comparison, only 13 percent of schools made a change to either school stores or snack bars, and 7 percent made a change to food carts (not shown). Although the survey did not investigate which food items were changed, over three-quarters (78 percent) of food service managers reported new state regulations as the impetus for change followed by 41 percent citing school district policy. This suggests that the changes were likely toward healthier food selections. In contrast, less than 10 percent of food service managers reported parents requests/initiatives or teacher requests/initiatives as the reason for change.

Table IV-7. Percentage of Schools that Changed the Availability of Competitive Foods in the Past 2 Years, SY 2012-13

	Percentage of schools
Changed the availability of competitive foods (n=309)	28.5%
Among schools that changed availability (n=88), type of change in past 2 years:	
Reduced hours ¹	9.1
Increased hours	6.8
Closed competitive food source; no longer available	9.1
Changed types of foods available	84.1
Moved location	10.2
Other	11.4
Among schools that changed availability (n=88), reasons for the change:	
School district policy	40.9
Principal's decision	20.5
New state regulations	78.4
Parents requests/initiatives	9.1
Teacher requests/initiatives	5.7

¹ Includes schools that eliminated hours during the school day.

Data Source: Food Service Manager Form SY2012-13, questions C3 and C4.

Eighty-five percent of food service managers reported that decisions about competitive foods were made centrally by the Board of Education and school administrators. Nevertheless, some schools sought out the opinions of parents and students when making changes to competitive foods. Table IV-8 shows that 27 percent of schools reported that parents provided input on the availability of competitive foods in the past 2 years. Among schools where parents provided input, the largest percentage reported parental input was shared through the school principal or teachers (38 percent). Student input on competitive foods was far less common, as only 7 percent of schools offered a suggestion box for students to provide feedback on competitive foods (not shown).

Table IV-8. Percentage of Schools in which Parents Provided Input on the Availability of Competitive Foods, SY 2012-13

	Percentage of schools
Parents provided input on competitive foods (n=306¹)	26.8%
Among schools where parents provided input on competitive foods, the method by which input was provided (n=82):	
Survey sent by school district	15.9
Survey sent by PTA/PTO	13.4
Survey sent by SFA	7.3
On-line suggestion	17.1
Through school principal/teacher	37.8

¹ n is less than 309 due to item non-response.

Data Source: Food Service Manager Interview Form SY 2012-13, questions C8 and C9.

V: Food Safety

Background

Serving safe and high-quality food is a critical responsibility for school foodservice staff and a key aspect of a healthy school environment (Stinson et al., 2008). According to the U.S. Government Accounting Office (GAO), outbreaks of foodborne illness in schools are rare, but appear to be increasing in incidence proportional to overall increases (GAO 2003). To improve the safety of school meals, when Congress passed the Child Nutrition and WIC Reauthorization Act (PL 108-265) in 2004, it required all SFAs to implement a food safety program by the beginning of SY 2005-06 to ensure the meals served in schools were safe. The law stipulated that the food safety program must be based on hazard analysis and critical control point (HACCP) principles and conform to all guidance issued by USDA. Additionally, the HHFKA reinforces the focus on food safety by requiring that schools continue to receive two food safety inspections a year and that the food safety program applies to the entire school campus.

The purpose of a school food safety program is to ensure the delivery of safe foods to children in the school meals programs by controlling hazards that may occur or be introduced into foods anywhere along the flow of the food from receiving to service (NFSMI, 2005). Surveys of school nutrition directors and managers conducted by the National Food Service Management Institute (NFSMI) found that by the HACCP implementation deadline, the overwhelming majority of respondents (90 percent) reported having standard or formal food safety procedures in their schools. However, another NFSMI study (2008) revealed that although the vast majority of schools reported implementing food safety programs, the implementation processes were often not complete.

The findings below provide a summary of observational on-site and school food service manager interview data related to cafeteria food safety.

Research Questions

- *What food safety measures are followed during food service (e.g., hairnets, gloves, food temperature, etc.)?*
- *How are milk products stored during food service?*
- *Do students self-serve any portion of their meal? Which items? Are self-serve stations appropriate height? Do self-serve stations have sneeze guards?*
- *What clean-up is done after meals?*
- *Are hand-washing stations and supplies available to students?*

Results

Food Safety Measures Followed

As Table V-1 shows, the percentage of schools observed using general food service safety measures varied somewhat between breakfast and lunch. The largest difference in food safety practices between the two meals was 81 percent of food service employees wore gloves during breakfast as compared to 95 percent during lunch. When comparing all safety measures, compliance was high for properly wrapping and covering food along with proper storage of cold/hot foods for both breakfast and lunch. Wiping up spills quickly and wearing hair restraints were the least observed food service safety measures during both meal times.

Table V-1 also shows that the majority of schools stored milk products in a refrigerated case or counter during breakfast (71 percent) and lunch (81 percent). Unrefrigerated counters, tables, or carts were the next likely to be used followed by milk storage in a portable cooler for both meal times. When breakfast is served in classroom settings only, milk is more likely to be stored in a portable cooler or on ice.

Table V-1. Percentage of Schools Observed that Used Various Food Service Safety Measures, Including Type of Storage for Milk Products, SY 2012-13

	Breakfast	Lunch
Percentage of schools observed using various food service safety measures	n = 282¹	n = 308²
Food service employees wear gloves	81.2 %	95.1%
Food is properly wrapped and covered	87.9	90.3
Cold/hot foods are stored properly	81.9	87.3
Food service employees use hair restraints	78.4	80.2
Spills are wiped up quickly	58.5	67.9
Percentage of schools with type of storage for milk products during meals	n=286¹	n=308²
Refrigerated case or counter	70.6	80.8
Unrefrigerated counter, table, or cart	15.0	9.7
In a portable cooler	10.5	9.1
On ice	5.9	2.9
In a milk dispenser	0.4	0.3

¹ n is less than 309 because not all schools participated in the SBP and item non-response.

² n is less than 309 due to item non-response.

Data Source: Cafeteria Observation Guide questions section I.B16 and B12 and section II.B17 and B13.

In addition to general food safety practices, self-serve items require additional safeguards to avoid unnecessary contamination. Table V-2 shows that all schools offered at least some self-serve items. Breakfast items were more likely than lunch items to be *all* self-served. However, 90 percent of schools offered some or all items as self-serve during lunch. Table V-2 also shows that among schools offering self-serve items, drinks were most popular during both meal times (breakfast 82 percent, lunch 86 percent) followed by wrapped or pre-packaged items. Just under half of schools offered self-serve salad bar items during lunch.

Among schools that offered self-serve foods, nearly all schools were observed to have self-serve stations that were appropriate height during both meals, but not every school used sneeze guards. Table V-2 shows that schools were more likely to have self-serve stations with sneeze guards or other coverings during lunch (76 percent) as compared to breakfast (66 percent).

Table V-2. Percentage of Schools that Offered Selected Self-Serve Food Items, SY 2012-13

	Breakfast	Lunch
All schools (breakfast n=285, lunch n=308) ¹		
Students serve all items themselves	38.6%	11.4%
Students serve some items themselves	48.1	78.3
Students do not serve themselves	13.3	10.4
Among schools that offer <i>some</i> self-serve, items include (breakfast n=137, lunch n=241) ² :		
Wrapped or pre-packaged items	72.3	71.4
Drinks	81.8	85.9
Salad bar	13.1	48.6
All schools:		
Self-serve stations appropriate height for young children (breakfast n=169, lunch n=188) ³	99.4	98.9
Sneeze guards or other covering for self-serve food stations (breakfast n=252, lunch n=288) ⁴	65.6	75.6

¹ n is less than 309 because not all schools participate in the SBP and item non-response.

² n equals the number of schools offering some self-serve items.

³ n is less than 309 as not all schools participate in the SBP, had self-serve stations, or had young children and item non-response.

⁴ n is less than 309 as not all schools participate in the SBP or, had self-serve stations and item non-response,

Data Source: Cafeteria Observation Guide questions section I.B17-20 and section II. B18-21.

Hand-washing stations and cleanliness practices

Table V-3 reveals that 78 percent of schools had student hand-washing stations. The two most common cleanliness practices after breakfast were wiping down tables and picking up trash . Between lunch periods, 82 percent of schools were observed to wipe down tables. Between 50 and 60 percent of schools were observed to wipe up spills on chairs, floor, and self-serve bar between lunch periods.

Table V-3. Percentage of Schools that Had Hand-Washing Stations and Cleanliness Practices, SY 2012-13

Hand washing stations and cleanliness practices	Percentage of schools
Hand-washing stations (n=304¹)	78.3%
Cleanliness practices	
Breakfast (n=255²)	
Wipe tables	86.3
Pick up trash	79.2
Empty trash containers	76.5
Sweep or mop floors	62.0
Lunch (n=302¹)	
Tables wiped down between sittings	81.8
Trash swept off floor	65.9
Spills wiped off self-serve bar	57.3
Spills wiped off chairs	56.3
Spills mopped up from floor	51.0

¹ n is less than 309 due to item non-response.

² n is less than 309 because not all schools participated in the SBP and item non-response.

Data Source: Food Service Manager Interview form question A9, Cafeteria Observation Guide questions section I.D10 and section II. D12.

References

- Bark, K. What are Montana children eating in the school lunch program? Results of a school lunch plate waste study in a rural state. Bozeman, MT: Montana Team Nutrition Program, Office of Public Instruction, Montana State University, 1998.
- Bergman, E.A., Buergel, N.S., Englund, T.F., and Femrite, A. The relationship of meal and recess schedules to plate waste in elementary schools. *The Journal of Child Nutrition and Management*, Vol. 28, No. 2, Fall 2004.
- Bhatt, G. *The impact of school lunch length on children's health*. Working Paper 09-07. Georgia State University, Andrew Young School of Policy Studies, Department of Economics, March 2009.
- Cohen, J., Richardson, S., Austin, S., Economos, C., and Rimm, E. School lunch waste among middle school students: Implications for nutrients consumed and food waste costs. *American Journal of Preventive Medicine*, Vol. 44, No. 2: 114–121, 2013.
- Conklin, M., Lambert, L., and Anderson, J. How long does it take students to eat lunch? A summary of three studies. *The Journal of Child Nutrition & Management*. Issue 1, Spring 2002.
- Delva, J., O'Malley, P.M., and Johnston, L.D. Availability of more-healthy and less-healthy food choices in American schools: A national study of grade, racial/ethnic, and sociodemographic differences. *American Journal of Preventative Medicine*, Vol. 33, No. 4S: S226–S239, 2007.
- French, S.A., Story, M., Fulkerson, J.A., and Gerlach, A.F. Food environment in secondary schools: À la carte, vending machines, and food policies and practices. *American Journal of Public Health*, Vol. 93, No. 7: 1161–1168, 2003.
- Johnston, L.D., Delva, J., and O'Malley, P.M. Soft drink availability, contracts, and revenues in American secondary schools. *American Journal of Preventive Medicine*, Vol. 33, No. 4S: S209-S225, 2007.
- Kubik, M.Y., Lytle, L.A., Hannan, P.J., Perry, C.L., and Story, M. The association of the school food environment with dietary behaviors of young adolescents. *American Journal of Public Health*, Vol. 93, No. 7: 1168–1173, 2003.
- National Food Service Management Institute (NFSMI). *HACCP implementation in K-12 schools*. University, MS: Author, 2008.
- National Research Council (NRC). *School Meals: Building Blocks for Healthy Children*. Washington, DC: The National Academies Press, 2010.

- Reger, C., O'Neil, C.E., Myers, N.L., and Berenson, G.S. Plate waste of school lunches served to children in a low-socioeconomic elementary school in south Louisiana. *School food Service Research Review*, 20, 13-19, 1996.
- Robichaux, f., and Adams, S. Offer vs. serve food-service in lower elementary school lunchrooms. *Journal of the American Dietetic Association*, 85,7, 853-4, 1985.
- Smith, S.L., Cunningham-Sabo, L. Food choice, plate waste and nutrient intake of elementary- and middle-school students participating in the US National School Lunch Program. *Public Health Nutrition*. July 18 (1-9), 2013.
- Stinson, W., Carr, D., Nettles, M., and Hubbard, S. *School nutrition directors and managers identify resources and training methods to aid in implementation of HACCP-based food safety programs in school nutrition programs*. University, MS: University of Mississippi, National Food Service Management Institute, 2008.
- Turner, L., Chaloupka, F.J., Chiqui, J.F., and Sandoval, A. *School policies and practices to improve health and prevent obesity: National Elementary School Survey results: School years 2006–07 and 2007–08*. Vol. 1. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2010.
- U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition, and Evaluation (USDA/FNS). *Child Nutrition Program Operations Study, second year report: Executive summary*. R. St. Pierre, M.K Fox, M. Puma, F. Glantz, M. Moss, and J. Endahl, Alexandria, VA. June 1992.
- U.S. Department of Agriculture, Food and Nutrition Service, Economic Research Service. *Plate waste in school nutrition programs: Report to Congress*. J. Buzby. and J. Guthrie. E-FAN-02-009, March 2002.
- U.S. Department of Agriculture, Food and Nutrition Service, Economic Research Service. *Feeding low-income children when school is out-the Summer Food Service Program*. A. Gordon and R. Briefel. Food Assistance Nutrition Research Report Number 30, 2003.
- U.S. Department of Agriculture, Food and Nutrition Service, Office of Research, Nutrition and Analysis. *School Nutrition Dietary Assessment Study-III, Vol. I: School foodservice, school food environment, and meals offered and served* (Nutrition Assistance Program Report Series, Special Nutrition Program Report No. CN-07-SNDA-III), A. Gordon, M.K. Crepinsek, R. Nogales, and E. Condon, 2007.
- United States General Accounting Office. *School meal programs: Few instances of foodborne outbreaks reported, but opportunities exist to enhance outbreak data and food safety practices*. May, 2003.

Wansink, B. Environmental factors that increase the food intake and consumption volume of unknowing consumers. *Annual Review of Nutrition, Vol. 24*: 455–479, 2004.

Watkins, S. Foods sold in competition with USDA school meal programs, a report to Congress: Cover letter. *Food, Nutrition, and Consumer Services, January 2001*.

Zandian, M., Ioakimidis, I., Bergstrom, J., Brodin, U., Bergh, C., Leon, M., Shield, J., and Sodersten, P. Children eat their school lunch too quickly: An exploratory study of the effect on food intake. *BMC Public Health, Vol. 12*: 351, 2012.

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Appendix A. Supplemental Tables

Table A-1. Percentage of Schools with Various Initial Meal Serving Times by Type of School, SY 2012-13

Breakfast				
	Elementary	Middle	High	Other
	Percentage of Schools			
Served breakfast¹	91.6%	97.4%	95.5%	83.3%
Start time of breakfast (n=288²)	(n=98 ²)	(n=76 ²)	(n=84 ²)	(n=30 ²)
Before 7:00 a.m.	2.0	1.3	9.5	0.0
7:00-7:30 a.m.	14.3	39.5	48.8	26.7
7:30-8:00 a.m.	38.8	39.5	32.1	50.0
8:00-8:30 a.m.	29.6	15.8	8.3	16.7
8:30 a.m. or later	15.3	4.0	1.2	6.7
	Time			
Start time of breakfast (n=288²)	(n=98 ²)	(n=76 ²)	(n=84 ²)	(n=30 ²)
Mean	7:53 a.m.	7:35 a.m.	7:22 a.m.	7:41 a.m.
Median	7:50 a.m.	7:30 a.m.	7:15 a.m.	7:35 a.m.
Mode	7:50 a.m.	7:30 a.m.	7:00 a.m.	7:30 a.m.
Lunch				
	Elementary	Middle	High	Other
	Percentage of Schools			
Start time of lunch service (n=302³)	(n=104 ³)	(n=76 ³)	(n=86 ³)	(n=36 ³)
Before 10:30 a.m.	4.8%	11.8%	12.8%	2.8%
10:30-11:00 a.m.	37.5	27.6	33.7	27.8
11:00-11:30 a.m.	41.4	44.7	33.7	55.6
11:30 a.m.-12:00 p.m.	14.4	14.5	17.4	13.9
12:00 p.m. or later	1.9	1.3	2.3	0.0
Schools with multiple lunch periods (n=309)	86.0	93.6	89.8	86.1
	Time			
Among schools with multiple lunch periods:				
Start time of first lunch period (n=274⁴)	(n=91 ⁴)	(n=73 ⁴)	(n=79 ⁴)	(n=31 ⁴)
Mean	11:04 a.m.	11:00 a.m.	10:58 a.m.	11:07 a.m.
Median	11:00 a.m.	11:00 a.m.	11:00 a.m.	11:12 a.m.
Mode	11:00 a.m.	11:00 a.m.	10:30 a.m.	11:00 a.m.
End time of last lunch period (n=272⁴)	(n=91 ⁴)	(n=72 ⁴)	(n=78 ⁴)	(n=31 ⁴)
Mean	12:50 p.m.	12:48 p.m.	12:46 p.m.	12:47 p.m.
Median	12:50 p.m.	12:47 p.m.	12:45 p.m.	12:51 p.m.
Mode	12:30 p.m.	12:30 p.m.	1:00 p.m.	1:00 p.m.

¹Elementary: n equals 107; Middle: n equals 78; High: n equals 88; Other: n equals 36

²n equals the number of schools that served breakfast.

³total n for all schools is less than 309 due to item non-response.

⁴total n for all schools is less than the 275 schools with more than one lunch period because of item non-response.

Data Source: Food Service Manager Interview Form, questions section I.A2 and section II.A7

Table A-2. Percentage of Schools with Different Meal Time Durations by Type of School, SY 2012-13

Breakfast				
	Elementary	Middle	High	Other
	Percentage of schools			
Served breakfast	91.6%	97.4%	95.5%	83.3%
Length of breakfast (n=288)	(n=98)	(n=76)	(n=84)	(n=30)
Less than 20 minutes	9.2	9.2	9.5	13.3
20 to 30 minutes	59.2	56.6	47.6	50.0
31 to 45 minutes	23.5	19.7	19.1	16.7
46 to 60 minutes	3.1	7.9	2.4	13.3
More than 60 minutes	5.1	6.7	21.4	6.7
	Minutes			
Length of breakfast (n=288)	(n=98)	(n=76)	(n=84)	(n=30)
Mean	31.3	33.2	46.8	34.3
Median	30.0	30.0	30.0	30.0
Mode	30.0	30.0	30.0	20.0
Lunch				
	Elementary	Middle	High	Other
	Percentage of schools			
Length of lunch (n=272¹)	(n=91)	(n=72)	(n=78)	(n=31)
Less than 20 minutes	20.9%	2.8%	5.1%	9.7%
20 to 30 minutes	44.0	27.8	28.2	35.5
31 to 45 minutes	31.9	51.4	48.7	45.2
46 to 60 minutes	2.2	18.1	11.5	9.7
More than 60 minutes	1.1	0.0	6.4	0.0
	Minutes			
Length of lunch (n=272¹)	(n=91)	(n=72)	(n=78)	(n=31)
Mean	28.3	36.6	38.3	33.1
Median	27.5	37.3	38.0	33.8
Mode	30.0	30.0	30.0	25.0

¹n is less than 309 because of item non-response.

Data Source: Food Service Manager Interview Form questions section I.2 and section II.A7.

Table A-3. Percentage of Schools with Different Meal Line Wait Times by Type of School, SY 2012-13

Meal	Percentage of schools observed to have meal wait times that were:		
	Less than 5 minutes	5-10 minutes	More than 10 minutes or varied
Breakfast (n=283 ¹)			
Elementary (n=96)	88.5%	10.4%	1.0%
Middle (n=74)	89.2	9.5	1.4
High (n=83)	89.2	10.8	0.0
Other (n=30)	96.7	3.3	0.0
Lunch (n=307 ²)			
Elementary (n=107)	80.4	17.8	1.9
Middle (n=77)	70.1	28.6	1.3
High (n=88)	59.1	34.1	6.8
Other (n=35)	71.4	28.6	0.0

¹ n is less than 309 because not all schools participated in SBP and item non-response.

² n is less than 309 because of item non-response.

Data Source: Cafeteria Observation Guide questions section I.B21 and section II.B27.

Table A-4. Food Items Offered by Competitive Food Source, SY 2012-13

	Percentage of schools in which each food item is available from (n=307):						
	À la carte lines	School store	Snack bar	Food cart	Other source	Vending machine	Any source
Beverages	46.3%	9.1%	5.5%	2.6%	0.7%	50.5%	70.0%
Carbonated sweetened soft drink	1.0%	1.3%	0.3%	0.0%	0.0%	13.0%	15.0%
Carbonated diet soft drink	1.0%	2.0%	0.3%	0.0%	0.3%	16.6%	17.6%
Juice (100% juice)	31.9%	4.2%	2.6%	2.0%	0.0%	21.8%	47.6%
Juice drinks (cranberry drink, fruit blends, Hi-C, lemonade, punch)	10.1%	3.3%	2.6%	0.0%	0.0%	16.0%	26.7%
Iced tea (sweetened)	9.8%	3.9%	2.3%	0.0%	0.0%	8.8%	19.5%
Iced tea (unsweetened)	3.6%	1.0%	0.7%	0.0%	0.0%	6.8%	10.7%
Water (spring water, flavored water, sparkling water, mineral water, seltzer water)	33.6%	6.5%	3.6%	1.0%	0.7%	46.6%	60.6%
Water (water with juice)	7.2%	0.7%	1.3%	0.0%	0.0%	13.0%	17.9%
Coffee	2.0%	2.3%	1.6%	0.0%	0.0%	0.7%	5.2%
Tea (hot)	0.7%	1.0%	0.7%	0.0%	0.0%	0.3%	2.0%
Hot chocolate	2.3%	1.6%	1.0%	0.0%	0.0%	0.3%	4.9%
Yogurt drinks	1.6%	0.3%	0.7%	0.0%	0.0%	0.7%	2.0%
Energy and sports drinks (Gatorade, Powerade, Red Bull)	15.3%	4.9%	3.9%	0.7%	0.0%	28.3%	36.8%
Whole milk	0.3%	0.0%	0.0%	0.0%	0.0%	0.7%	1.0%
Reduced fat (2%) white milk	5.9%	0.0%	1.3%	0.0%	0.0%	1.0%	6.8%
Low fat (1%) white milk	22.5%	0.7%	2.3%	1.6%	0.0%	3.6%	26.7%
Fat-free white milk	18.6%	0.3%	1.0%	0.7%	0.0%	1.6%	20.8%
Fat-free flavored milk	27.4%	0.7%	2.9%	1.0%	0.0%	2.9%	30.6%
Other	5.5%	0.3%	0.7%	0.0%	0.0%	2.0%	7.8%
Dairy	22.5%	2.0%	2.3%	1.6%	0.0%	4.2%	28.0%
Yogurt	16.6%	0.3%	1.6%	1.0%	0.0%	1.0%	18.6%
Cheese	13.7%	1.0%	1.6%	1.0%	0.0%	0.7%	16.0%
Other	6.8%	0.7%	1.6%	0.7%	0.0%	2.9%	10.1%
Baked Goods – Dessert	27.4%	8.1%	3.9%	1.6%	1.0%	21.2%	44.3%
Cake-type (brownies, cupcakes, Twinkies)	6.2%	1.6%	1.6%	0.7%	0.0%	5.5%	12.7%
Cake-type (low-fat/reduced-fat brownies, cupcakes, Twinkies)	2.9%	0.7%	0.7%	0.3%	0.0%	2.0%	5.9%
Cookies	15.6%	5.5%	3.3%	0.7%	0.0%	15.3%	31.6%
Cookies (low-fat/reduced fat)	8.5%	1.0%	0.7%	0.3%	0.3%	5.2%	14.7%
Pastries (pies, turnovers)	5.2%	2.0%	1.0%	0.7%	0.3%	8.1%	14.7%
Other	3.3%	1.3%	0.3%	0.0%	0.7%	7.2%	11.1%

Table A-4. Food Items Offered by Competitive Food Source, SY 2012-13 (Continued)

	Percentage of schools in which each food item is available from (n=307):						
	À la carte lines	School store	Snack bar	Food cart	Other Source	Vending Machine	Any source
Bread or grain products	31.6%	7.2%	4.9%	2.0%	1.0%	26.1%	49.2%
Regular bread (bread, rolls, bagels)	5.9%	0.7%	2.3%	0.7%	0.3%	0.7%	9.4%
Whole grain bread (bread, rolls, bagels)	9.8%	0.3%	1.0%	0.3%	0.0%	1.0%	11.4%
Other bread (biscuits, croissants, hot pretzels)	4.6%	0.3%	1.3%	1.0%	0.0%	0.3%	6.8%
Muffins (regular)	6.5%	1.6%	1.3%	1.3%	0.0%	2.3%	10.7%
Muffins (whole grain)	6.5%	0.0%	1.0%	0.0%	0.0%	0.7%	7.2%
Muffins (low-fat/reduced-fat)	2.0%	0.3%	0.3%	0.0%	0.3%	0.7%	3.3%
Granola bars	6.8%	3.3%	2.0%	0.7%	0.0%	15.0%	22.5%
Granola bars (low-fat/reduced-fat)	5.9%	1.6%	1.0%	0.7%	0.3%	7.5%	14.3%
Pretzels (regular, sourdough)	6.8%	2.0%	1.6%	0.3%	0.0%	10.7%	18.2%
Pretzels (whole grain)	4.2%	1.0%	0.7%	0.0%	0.0%	4.6%	9.4%
Crackers/cracker sandwiches: peanut butter	2.6%	1.0%	1.6%	0.0%	0.0%	8.8%	12.7%
Crackers/cracker sandwiches: cheese	6.5%	3.3%	1.6%	0.3%	0.0%	11.4%	19.2%
Cereal/cereal bars	16.9%	2.3%	3.6%	1.0%	0.7%	15.6%	29.3%
Other	7.2%	1.3%	1.0%	0.0%	0.3%	9.8%	16.9%
Frozen Desserts	20.5%	3.3%	2.6%	0.7%	0.3%	5.9%	29.0%
Frozen non-dairy (fruit bars, Jello Pops, popsicles)	6.8%	0.3%	0.3%	0.0%	0.0%	3.6%	10.7%
Ice cream (bars, cups, Fudgesicles, sundaes)	16.0%	2.6%	2.3%	0.3%	0.0%	4.9%	22.5%
Low-fat frozen desserts (frozen yogurt, ice milk, sherbet)	6.8%	0.3%	0.3%	0.3%	0.3%	0.7%	8.5%
Milkshakes	0.3%	0.3%	0.0%	0.0%	0.0%	0.7%	1.3%
Smoothies	2.0%	0.7%	1.3%	0.0%	0.0%	0.0%	3.9%
Fruit and vegetables	26.1%	1.6%	3.3%	1.6%	0.7%	2.6%	29.3%
Canned or cooked fruit	10.1%	0.3%	0.3%	0.0%	0.0%	0.7%	10.1%
Fresh fruit (whole, cut)	20.2%	0.3%	2.6%	1.0%	0.0%	0.3%	22.1%
Fruit salad (fresh)	7.5%	0.3%	1.6%	0.3%	0.3%	0.3%	7.8%
Fruit salad (canned in water)	1.6%	0.0%	0.3%	0.0%	0.0%	0.3%	1.6%
Fruit salad (canned in light syrup)	4.2%	0.0%	0.0%	0.0%	0.0%	0.3%	4.2%
Dried fruit	2.9%	0.0%	0.3%	0.0%	0.0%	2.0%	5.2%
Other fresh fruit	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Vegetables, side salad	16.3%	0.3%	1.6%	0.7%	0.7%	0.3%	17.6%
Vegetables, raw	15.6%	0.0%	1.0%	0.3%	0.0%	0.3%	16.0%
Other fresh vegetables	2.9%	0.7%	0.0%	0.0%	0.0%	0.3%	3.9%

Table A-4. Food Items Offered by Competitive Food Source, SY 2012-13 (Continued)

	Percentage of schools in which each food item is available from (n=307):						
	À la carte lines	School store	Snack bar	Food cart	Other Source	Vending Machine	Any source
Snacks	32.2%	10.4%	5.5%	1.3%	1.0%	27.4%	49.5%
Chips (corn, potato, tortilla)	15.3%	4.9%	2.9%	0.3%	0.0%	18.6%	30.6%
Chips (lower-fat/reduced-fat corn, potato, tortilla)	23.5%	4.2%	3.6%	0.7%	0.3%	16.3%	35.5%
Puffed cheese (regular)	4.9%	2.6%	1.3%	0.0%	0.0%	10.4%	16.6%
Puffed cheese (lower-fat/reduced-fat)	5.5%	1.3%	0.0%	0.0%	0.0%	5.9%	10.1%
Nuts and seeds (almonds, peanuts, sunflower seeds, trail mix)	5.5%	2.6%	2.6%	0.7%	0.3%	15.0%	20.8%
Fruit snacks (roll-Up, Gummies)	8.8%	3.6%	2.9%	0.0%	0.0%	15.0%	24.1%
Popcorn	12.1%	3.6%	2.3%	0.3%	1.0%	8.1%	23.5%
Meat snacks (jerky, pork rinds)	2.6%	2.6%	1.3%	0.3%	0.0%	8.8%	14.0%
Candy with chocolate	1.3%	4.6%	1.6%	0.0%	0.0%	8.8%	13.7%
Candy without chocolate	1.3%	3.9%	1.0%	0.0%	0.0%	9.8%	14.0%
Energy bars (Balance Bars, Luna Bars, Power Bars, etc)	2.0%	1.6%	1.3%	0.0%	0.0%	5.2%	8.1%
Other	5.2%	2.6%	2.0%	0.7%	0.0%	6.2%	15.3%
Entrees and side food items	24.8%	3.3%	4.9%	1.6%	1.0%	0.0%	30.0%
Hot dogs	3.6%	0.0%	0.3%	0.3%	0.0%	0.0%	4.2%
Hamburgers or cheeseburgers	9.4%	0.7%	1.3%	1.0%	0.0%	0.0%	11.4%
Veggie burgers	1.3%	0.0%	0.3%	0.0%	0.0%	0.0%	1.6%
Grilled sandwiches	5.5%	0.7%	1.3%	0.3%	0.3%	0.0%	7.2%
Cold sandwiches	11.7%	0.3%	2.6%	1.0%	0.7%	0.0%	14.0%
Burritos	4.9%	0.3%	0.7%	0.7%	0.3%	0.0%	6.2%
Taco	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%
Meal-size salad	8.1%	0.3%	1.0%	0.3%	0.3%	0.0%	8.8%
Pizza (slice)	15.6%	0.7%	1.6%	1.6%	0.7%	0.0%	18.2%
Pizza (bites)	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.7%
Pasta	4.2%	0.7%	0.7%	0.0%	0.0%	0.0%	5.5%
French fries	8.1%	0.7%	0.7%	1.0%	0.0%	0.0%	9.8%
Onion rings	0.3%	0.3%	0.0%	0.3%	0.0%	0.0%	1.0%
Mozzarella sticks	5.9%	0.3%	0.3%	0.3%	0.0%	0.0%	6.2%
Other	12.7%	2.0%	3.9%	1.6%	0.3%	0.0%	18.9%

n is less than 307 due to item non-response.

Data Source: Other Food Source Checklist question 2; Vending Machine Checklist question 2.

Table A-5. Food Items Offered in Vending Machines and Available During Breakfast and Lunch in Food Service Area or Adjacent to Food Service Area, SY 2012-13

	Percentage of schools (n=101):	
	In food service area	Adjacent to food service area (within 20 feet)
Beverages		
Carbonated sweetened soft drink	3.0	9.9
Carbonated diet soft drink	4.0	12.9
Juice (100% juice)	20.8	13.9
Juice drinks (cranberry drink, fruit blends, Hi-C, lemonade, punch)	20.8	8.9
Iced tea (sweetened)	12.9	6.9
Iced tea (unsweetened)	5.0	4.0
Water (spring water, flavored water, sparkling water, mineral water, seltzer water)	40.6	29.7
Water (water with juice)	12.9	6.9
Coffee	2.0	1.0
Tea (hot)	1.0	0.0
Hot chocolate	1.0	0.0
Yogurt drinks	2.0	1.0
Energy and sports drinks (Gatorade, Powerade, Red Bull)	20.8	16.8
Whole milk	1.0	1.0
Reduced fat (2%) white milk	1.0	1.0
Low fat (1%) white milk	6.9	2.0
Fat-free white milk	4.0	1.0
Fat-free flavored milk	5.9	2.0
Other	3.0	3.0
Dairy		
Yogurt	3.0	1.0
Cheese	2.0	0.0
Other	1.0	1.0
Baked Goods – Dessert		
Cake-type (brownies, cupcakes, Twinkies)	3.0	3.0
Cake-type (low-fat/reduced-fat brownies, cupcakes, Twinkies)	0.0	0.0
Cookies	9.9	8.9
Cookies (low-fat/reduced fat)	4.0	1.0
Pastries (pies, turnovers)	4.0	5.0
Other	5.9	5.9
Bread or grain products		
Regular bread (bread, rolls, bagels)	1.0	1.0
Whole grain bread (bread, rolls, bagels)	3.0	0.0
Other bread (biscuits, croissants, hot pretzels)	1.0	0.0
Muffins (regular)	3.0	2.0
Muffins (whole grain)	1.0	0.0
Muffins (low-fat/reduced-fat)	1.0	1.0
Granola bars	10.9	7.9
Granola bars (low-fat/reduced-fat)	5.0	5.9
Pretzels (regular, sourdough)	5.9	4.0
Pretzels (whole grain)	5.9	2.0
Crackers/cracker sandwiches: peanut butter	5.0	6.9
Crackers/cracker sandwiches: cheese	6.9	6.9
Cereal/cereal bars	12.9	7.9
Other	4.0	6.9

Table A-5. Food Items Offered in Vending Machines and Available During Breakfast and Lunch in Food Service Area or Adjacent to Food Service Area, SY 2012-13 (Continued)

	Percentage of schools from (n=101):	
	In food service area	Adjacent to food service area (within 20 feet)
Frozen Desserts		
Frozen non-dairy (fruit bars, Jello Pops, popsicles)	4.0	0.0
Ice cream (bars, cups, Fudgesicles, sundaes)	5.9	0.0
Low-fat frozen desserts (frozen yogurt, ice milk, sherbet)	1.0	0.0
Milkshakes	0.0	1.0
Smoothies	0.0	0.0
Fruit and vegetables		
Canned or cooked fruit	2.0	0.0
Fresh fruit (whole, cut)	1.0	0.0
Fruit salad (fresh)	1.0	0.0
Fruit salad (canned in water)	1.0	0.0
Fruit salad (canned in light syrup)	1.0	0.0
Dried fruit	4.0	1.0
Other fresh fruit	0.0	0.0
Vegetables, side salad	1.0	0.0
Vegetables, raw	1.0	0.0
Other fresh vegetables	1.0	0.0
Snacks		
Chips (corn, potato, tortilla)	13.9	11.9
Chips (lower-fat/reduced-fat corn, potato, tortilla)	12.9	5.0
Puffed cheese (regular)	7.9	7.9
Puffed cheese (lower-fat/reduced-fat)	4.0	3.0
Nuts and seeds (almonds, peanuts, sunflower seeds, trail mix)	8.9	9.9
Fruit snacks (roll-Up, Gummies)	12.9	8.9
Popcorn	5.9	5.0
Meat snacks (jerky, pork rinds)	2.0	5.9
Candy with chocolate	3.0	6.9
Candy without chocolate	5.0	6.9
Energy bars (Balance Bars, Luna Bars, Power Bars, etc)	3.0	2.0
Other	4.0	2.0
Entrees and side food items		
Hot dogs	0.0	0.0
Hamburgers or cheeseburgers	0.0	0.0
Veggie burgers	0.0	0.0
Grilled sandwiches	0.0	0.0
Cold sandwiches	0.0	0.0
Burritos	0.0	0.0
Taco	0.0	0.0
Meal-size salad	0.0	0.0
Pizza (slice)	0.0	0.0
Pizza (bites)	0.0	0.0
Pasta	0.0	0.0
French fries	0.0	0.0
Onion rings	0.0	0.0
Mozzarella sticks	0.0	0.0
Other	0.0	0.0

Data Source: Food Service Manager Interview Form question B9; Vending Machine Checklist question 2.

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Appendix B. Data Collection Instruments

FOOD SERVICE MANAGER INTERVIEW FORM

School Name: _____		
Grade span: _____	SFA ID: _____	School ID: _____
Observer Name: _____		Date: _____

INTRODUCTION: We have a few questions about food service operations and the availability non-reimbursable or competitive foods in your school.

A. Cafeteria Operations

1. Is breakfast served at this school?
 Yes
 No → SKIP TO Q3
2. What time does breakfast begin and end?
Start time: _____
End time: _____
3. What time does the first bus arrive at school?
Time: _____
4. What time does school start?
Time: _____
5. Is there more than one lunch period?
 Yes
 No → SKIP TO Q8
6. How many lunch periods are there?
Number: _____

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB number. The valid OMB control number for this information collection is 0584-0562. The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

7. What time does lunch start? (NOTE: start of first lunch period)
Time: _____
8. What time does lunch end? (NOTE: end of last lunch period)
Time: _____
9. Is there a hand washing station and supplies available to students in or near (within 20 feet of) the cafeteria?
 Yes
 No
10. Are reimbursable meals and a la carte items offered to students in the same line?
 Yes
 No, separate a la carte line
 Not applicable, a la carte items are not offered to students
11. How many serving lines are there?
 _____ Number of lines serving reimbursable meals only
 _____ Number of lines serving non-reimbursable meals only
 _____ Number of lines serving both reimbursable and non-reimbursable meals
12. Can students get food from the cafeteria outside of meal times?
 Yes
 No
13. Since starting to implement the new pattern requirements, have you noticed any changes in the amount of food students don't eat and throw away at lunch time? For each of the following foods, would you say students waste more, waste less, or there's no change in the amount of waste?

Foods	Students waste more	Students waste less	No change in waste	Don't know
Fluid Milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main dish/entrée	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bread/bread alternate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salad/raw vegetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooked vegetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Desserts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Specify _____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Specify _____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IF CHECKED "NO CHANGE" FOR ALL FOODS THEN SKIP TO SECTION B
OTHERWISE CONTINUE WITH Q14.

14. Is the change in the amount of plate waste due to:

- | | YES | NO |
|---|--------------------------|--------------------------|
| a. The amount of time available to eat? | <input type="checkbox"/> | <input type="checkbox"/> |
| b. The type of food served? | <input type="checkbox"/> | <input type="checkbox"/> |
| c. The amount of food served? | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Some other reason? (SPECIFY _____) | <input type="checkbox"/> | <input type="checkbox"/> |

B. Other Food Sources

1. Is there a school store that sells food in the school? For study purposes, a store may sell food items but does not do any food preparation.

- Yes
 No → SKIP TO Q3

2. How many school stores are there?

Number: _____
Note locations: _____
Hours of operation _____

FILL OUT AN OTHER FOOD SOURCES CHECKLIST FOR EACH SCHOOL STORE.

3. Is there a school snack bar where prepared food is served? (**NOTE:** To qualify as a snack bar, there must be some food preparation done to order by the snack bar. A place where students can get a reimbursable meal is a cafeteria, not a snack bar.)

- Yes
 No → SKIP TO Q5

4. How many school snack bars are there?

Number: _____
Note locations: _____
Hours of operation _____

FILL OUT AN OTHER FOOD SOURCES CHECKLIST FOR EACH SCHOOL SNACK BAR.

5. Is there a food cart that sells food either in the school or on the school campus?

- Yes
 No → SKIP TO Q7

6. How many food carts are there?

Number: _____

Note locations: _____

Hours of operation _____

FILL OUT AN OTHER FOOD SOURCES CHECKLIST FOR EACH FOOD CART.

7. Does the school have any vending machines that dispense food or beverages?

Yes, inside cafeteria

Yes, outside cafeteria but within 20 feet

Yes, outside cafeteria (further than 20 feet)

No → SKIP TO SECTION C

8. Are the vending machines available to students for purchasing items at any time during the school day?

Yes

No → SKIP TO SECTION C

9. Can students purchase items from vending machines during breakfast or lunch?

Yes, breakfast only

Yes, lunch only

Yes, both breakfast and lunch

No, neither

FILL OUT A VENDING MACHINE CHECKLIST FOR EACH VENDING MACHINE.

C. Changes in Availability of Competitive Foods

1. Have there been any changes made to the availability of competitive foods over the past 2 years?

Yes

No → SKIP TO Q5

2. In which areas were changes made?

<u>AREA</u>	<u>Yes</u>	<u>No</u>
a. À la carte items	<input type="checkbox"/>	<input type="checkbox"/>
b. School Store	<input type="checkbox"/>	<input type="checkbox"/>
c. Snack Bar	<input type="checkbox"/>	<input type="checkbox"/>
d. Food Cart.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Vending machines	<input type="checkbox"/>	<input type="checkbox"/>
f. Other (specify _____)	<input type="checkbox"/>	<input type="checkbox"/>

FOR EACH OF THE AREAS CHECKED ABOVE ASK THE FOOD SERVICE MANAGER.....

3. Which of the following best describes the changes made in each area?

<u>Changes</u>	<u>À la carte</u>	<u>School Store</u>	<u>Snack Bar</u>	<u>Food Cart</u>	<u>Vending machines</u>
a. Reduced hours	<input type="checkbox"/>				
b. Increased hours.....	<input type="checkbox"/>				
c. Eliminated hours during school day.....	<input type="checkbox"/>				
d. Eliminated/closed; no longer have	<input type="checkbox"/>				
e. Changed types of foods available	<input type="checkbox"/>				
f. Moved the location	<input type="checkbox"/>				
f. Other (SPECIFY _____).....	<input type="checkbox"/>				

4. Were the changes in response to?

<u>Reason</u>	<u>Yes</u>	<u>No</u>
a. School district policy	<input type="checkbox"/>	<input type="checkbox"/>
b. Principal's decision.....	<input type="checkbox"/>	<input type="checkbox"/>
c. New state regulations	<input type="checkbox"/>	<input type="checkbox"/>
d. Parent requests/initiatives.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Teacher requests/initiatives.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Other (SPECIFY _____).....	<input type="checkbox"/>	<input type="checkbox"/>

5. Are decisions about competitive foods made centrally by the Board of Education or school administrators?

- Yes
- No

6. Do you have a suggestion box in your cafeteria where students can provide feedback?

- Yes
- No → SKIP TO Q8

7. How do you decide which suggestions to implement?

8. Over the past 2 years have parents provided any input on the availability of competitive foods in the school?

- Yes
- No → SKIP TO 10

9. How did parents provide input?

	<u>Yes</u>	<u>No</u>
a. Survey sent by school district.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Survey sent by PTA/PTO.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Survey sent by SFA	<input type="checkbox"/>	<input type="checkbox"/>
d. On-line suggestion box.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Through school principal/teacher.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Other (SPECIFY _____).....	<input type="checkbox"/>	<input type="checkbox"/>

10. Is there anything else we should know about changes in food service operations and competitive foods over the past 2 years?

END

CAFETERIA OBSERVATION GUIDE

School Name:	_____		
Observer Name:	_____		
Date:	_____	SFA ID: _____	School ID: _____
Grades:	_____		

I. Breakfast Observations

If the school does not serve breakfast, check here and go to Section II, Lunch Observation.

A. Location

1. Where is breakfast served in the school?

- Cafeteria only
- Classroom only
- Both cafeteria and classroom
- Other locations, SPECIFY _____

2. Does the location for breakfast vary by grade within the school?

- Yes
- No

3. How many locations (that is, indoor rooms or areas where students can get a reimbursable breakfast) are there in the school?

_____ Number of locations

IF THERE IS MORE THAN ONE LOCATION (CAFETERIA, CLASSROOM, ETC) IN USE FOR BREAKFAST, OBSERVE THE ONE THAT SERVES THE MOST STUDENTS. DESCRIBE THE LOCATION OBSERVED.

4. What other uses does the eating space have during the breakfast period?

- None
- Gymnasium
- Entry or hallway
- Enrichment classes
- Club meetings or other student meetings
- School staff meetings
- Parent meetings
- Other (Specify)

5. Is there a courtyard or other outdoor space where students are permitted to eat breakfast?

- Yes
- No → SKIP TO SECTION B

6. Are tables and seating available?

- Yes, tables and seating
- Yes, benches or other seating only
- No

7. How many tables and seats are available?

Number of tables: _____
Number of benches: _____
Number of chairs: _____
Other seating? (SPECIFY TYPE and NUMBER) _____

7a. Are students sitting on the ground?

- Yes, most of the students
- Yes, about half of the students
- Yes, a few of the students
- No

8. Is the area covered or enclosed?

- Yes, covered and enclosed
- Yes, covered only
- Yes, enclosed but not covered
- No

B. Food Lines

1. How many serving lines are there? Count all food lines.

Total number of lines

2. How many cashiers are there?

Number of cashiers

3. Are reimbursable meals and a la carte items offered to students in the same serving line?
 Yes
 No → SKIP TO Q5
4. Are a la carte items offered at the beginning, middle or end of the line? [CHECK ALL THAT APPLY]
- | | <u>Yes</u> | <u>No</u> |
|--------------|--------------------------|--------------------------|
| a. Beginning | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Middle | <input type="checkbox"/> | <input type="checkbox"/> |
| c. End | <input type="checkbox"/> | <input type="checkbox"/> |
5. Are fruits and vegetables offered at the beginning, middle or end of the line? [CHECK ALL THAT APPLY]
- | | <u>Yes</u> | <u>No</u> |
|--------------|--------------------------|--------------------------|
| a. Beginning | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Middle | <input type="checkbox"/> | <input type="checkbox"/> |
| c. End | <input type="checkbox"/> | <input type="checkbox"/> |
6. Are food items like bananas, apples and oranges pre-cut, pre-sliced or pre-peeled to ease consumption for students, especially younger students?
 Yes
 No
7. Is accurate information (e.g., signage) about choosing a reimbursable meal available near or at the beginning of each serving line?
 Yes
 No
8. Are students instructed on how to properly select food items to create a reimbursable meal in each line?
 Yes
 No
9. Are students properly instructed on Offer versus Serve, if applicable?
 Yes
 No
10. Under Offer versus Serve, are students instructed to take the minimum required amounts of fruits and vegetables?
 Yes
 No
11. Are trays available to help students carry their food?
 Yes
 No

12. Where are milk products kept during breakfast service?
- Refrigerated case or counter
 - On ice
 - In a portable cooler
 - In a milk dispenser
 - Unrefrigerated counter, table or cart
 - Other _____
13. Are at least two types of milk offered?
- Yes
 - No
14. Are only low fat and fat-free milk offered?
- Yes
 - No
15. If flavored milk is offered, is it fat-free?
- Yes
 - No
 - Not offered
16. What food safety measures are taken? (PLEASE CHECK ALL THAT APPLY):
- Food service employees wear hair restraints
 - Food service employees wear gloves
 - Spills are wiped up quickly
 - Food is properly wrapped and covered
 - Cold/hot foods are stored properly to maintain recommended temperatures
 - There is a sneeze guard on the salad bar (If no salad bar, check here)
 - Other (_____)
17. Do students serve any foods themselves?
- Yes, all items → **SKIP TO Q19**
 - Yes, some items → **GO TO Q18**
 - No → **SKIP TO Q19**
18. Which of the following items do students self-serve?
- Wrapped or pre-packaged items
 - Drinks
 - Salad bar
 - Other (specify _____)
19. Are the self-service stations an appropriate height for young children?
- Yes
 - No, needed but not available
 - Not needed, no young children
 - Not needed, no self-serve at this cafeteria

20. Are there sneeze guards or other covering over self-serve foods?
 Yes
 No
 No self-serve foods
21. Approximately how long did students wait in line prior to receiving their meal?
 Less than 5 minutes
 5 to 10 minutes
 More than 10 minutes
 Varies depending on the popularity of the specific serving line
22. How many minutes prior to classes starting does the cafeteria stop serving breakfast?
 Less than 5 minutes
 5 to 10 minutes
 More than 10 minutes

C. Plate Waste

1. In general, how much of the following types of foods is being tossed into the waste disposal containers by students?

Foods	None	Some	About half	Most	All	Not Served
a. Fluid Milk	<input type="checkbox"/>					
b. Main dish/entrée	<input type="checkbox"/>					
c. Bread/bread alternate	<input type="checkbox"/>					
d. Salad/raw vegetables	<input type="checkbox"/>					
e. Cooked vegetables	<input type="checkbox"/>					
f. Fruit	<input type="checkbox"/>					
g. Desserts	<input type="checkbox"/>					
h. Other (Specify _____)	<input type="checkbox"/>					
i. Other (Specify _____)	<input type="checkbox"/>					

D. Seating Area

If all students eat breakfast in a classroom, check here and go to Section II, Lunch Observation

1. Were there always enough seats for all of the students eating?
 Yes
 No
2. How much do students get up and move around during the course of the meal period?
 No apparent limits on movement
 Limited movement (throw out trash, get more food, etc.)
 No movement. All stay in seats

3. What is the noise level in the cafeteria during the meal?
 Very noisy – have to shout to talk to someone you are sitting next to
 Noisy – have to raise your voice a little to talk to someone sitting next to you
 Normal to quiet – can speak normally to someone sitting next to you

4. Was there adult supervision during the meal service?
 Yes
 No → SKIP TO Q9

5. Did it appear that there are enough staff on-hand to help the meal period run smoothly?
 Yes → SKIP TO Q7
 No

6. Which areas were short staffed: (CHECK ALL THAT APPLY)
 food service
 adult supervision for students
 janitorial staff

7. Did any staff members sit at the tables with students during breakfast?
 Yes
 No

8. How often during breakfast did a cafeteria or other school staff signal students to quiet down?
 4 times or more
 1-3 times
 Never

9. Is there a “trading table” in use during breakfast? A trading table is a place where students put food they have not tasted.
 Yes
 No

10. What cleanup is done after breakfast? (Check all that apply)
 Wipe tables
 Pick up trash
 Sweep or mop floors
 Empty trash containers

11. Did any students continue to eat breakfast after classes started for the day?
 Yes
 No

II. Lunch Observations

A. Location

1. Is lunch served in the same location as breakfast?
 Yes → SKIP TO Q3
 No
 Not applicable, don't serve breakfast

2. Where is lunch served in the school?
 Cafeteria only
 Classroom only
 Both cafeteria and classroom
 Other locations, SPECIFY _____

3. Does the location for lunch vary by grade within the school?
 Yes
 No

4. How many locations (that is, indoor rooms or areas where students can get a reimbursable lunch) are in the school?

Number of locations

IF THERE IS MORE THAN ONE LOCATION (CAFETERIA, CLASSROOM, ETC) IN USE FOR LUNCH, OBSERVE THE ONE THAT SERVES THE MOST STUDENTS. DESCRIBE THE LOCATION OBSERVED.

5. What other uses did the eating space have during the lunch period? (Check all that apply)
 None
 Gymnasium
 Entry or hallway
 Enrichment classes
 Club meetings
 Other meetings for students
 School staff meetings
 Parent meetings
 Other (SPECIFY)

6. Is there a courtyard or other outdoor space where students are permitted to eat lunch?

- Yes
- No → SKIP TO SECTION B

7. Are tables and seating available?

- Yes, tables and seating
- Yes, benches or other seating only
- No

8. How many tables and seats are available?

Number of tables: _____
Number of benches: _____
Number of chairs: _____
Other seating? (SPECIFY TYPE and NUMBER) _____

8a. Are students sitting on the ground?

- Yes, most of the students
- Yes, about half of the students
- Yes, a few of the students
- No

9. Is the area covered or enclosed?

- Yes, covered and enclosed
- Yes, covered only
- Yes, enclosed but not covered
- No

B. Food Lines

1. How many serving lines are there? Count all food lines.

Total number of lines

2. How many cashiers are there?

Number of cashiers

3. Are reimbursable meals and a la carte items offered to students in the same serving line?

- Yes
- No → SKIP TO Q5

4. Are a la carte items offered at the beginning, middle or end of the line? [CHECK ALL THAT APPLY]
- | | <u>Yes</u> | <u>No</u> |
|--------------|--------------------------|--------------------------|
| a. Beginning | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Middle | <input type="checkbox"/> | <input type="checkbox"/> |
| c. End | <input type="checkbox"/> | <input type="checkbox"/> |
5. Are fruits and vegetables offered at the beginning, middle or end of the line? [CHECK ALL THAT APPLY]
- | | <u>Yes</u> | <u>No</u> |
|--------------|--------------------------|--------------------------|
| a. Beginning | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Middle | <input type="checkbox"/> | <input type="checkbox"/> |
| c. End | <input type="checkbox"/> | <input type="checkbox"/> |
6. Are food items like bananas, apples and oranges pre-cut, pre-sliced or pre-peeled to ease consumption for students, especially younger students?
- Yes
 No
7. Is accurate information (e.g., signage, my plate posters, etc.) about choosing a reimbursable meal available near or at the beginning of each serving line?
- Yes
 No
8. Are students instructed on how to properly select food items to create a reimbursable meal in each line?
- Yes
 No
9. Are individual food items identified as healthier choice food items?
- Yes
 No
10. Are students properly instructed on Offer versus Serve, if applicable?
- Yes
 No
11. Under Offer versus Serve, are students instructed to take the minimum required amounts of fruits and vegetables?
- Yes
 No
12. Are trays available to help students carry their food?
- Yes
 No

13. Where are milk products kept during lunch service?
- Refrigerated case or counter
 - On ice
 - In a portable cooler
 - In a milk dispenser
 - Unrefrigerated counter, table or cart
 - Other _____
14. Are at least two types of milk offered?
- Yes
 - No
15. Are only low fat and fat-free milk offered?
- Yes
 - No
16. If flavored milk is offered, is it fat-free?
- Yes
 - No
17. What food safety measures are taken? (PLEASE CHECK ALL THAT APPLY):
- Food service employees wear hair restraints
 - Food service employees wear gloves
 - Spills are wiped up quickly
 - Food is properly wrapped and covered
 - Cold/hot foods are stored properly to maintain recommended temperatures
 - There is a sneeze guard on the salad bar (If no salad bar, check here)
 - Other (_____)
18. Do students serve any foods themselves?
- Yes, all items → **SKIP TO Q20**
 - Yes, some items → **GO TO Q19**
 - No → **SKIP TO Q20**
19. Which of the following items do students self-serve?
- Wrapped or pre-packaged items
 - Drinks
 - Salad bar
 - Other (specify _____)
20. Are the self-service stations an appropriate height for young children?
- Yes
 - No, needed but not available
 - Not needed, no young children or no self-serve at this cafeteria

21. Are there sneeze guards or other covering over self-serve foods?
- Yes
 - No
 - No self-serve foods
22. Overall, how appealing does the food appear?
- Very appealing Explain: _____
 - Appealing
 - OK (Equal amount of appealing and unappealing food items)
 - Unappealing
 - Very unappealing Explain: _____
23. Is there a microwave oven available to all students to cook or heat food?
- Yes, students who purchase food at school or bring food from home can use microwave → **GO TO Q24**
 - Only students who purchase food onsite can use the microwave → **GO TO Q24**
 - Only students who bring food from home can use the microwave → **GO TO Q24**
 - No microwave is available for any student use → **SKIP TO Q25**
24. How many students used the microwave?
- None
 - A few
 - Constantly in use
25. What proportion of students brought versus purchased their lunch?
- less than 10%
 - 10% to 25%
 - 26% to 50%
 - more than 50%
26. Were students of different grades in the line at the same time?
- Yes
 - No
27. Approximately how long did students wait in line prior to receiving their meal?
- Less than 5 minutes
 - 5 to 10 minutes
 - More than 10 minutes
 - Varies depending on the popularity of the specific serving line
28. How many minutes prior to the next lunch period does the cafeteria stop serving lunch?
- Less than 5 minutes
 - 5 to 10 minutes
 - More than 10 minutes

C. Plate Waste

1. In general, how much of the following types of foods is being tossed into the waste disposal containers by students?

Foods	None	Some	About half	Most	All	Not Served
a. Fluid Milk	<input type="checkbox"/>					
b. Main dish/entrée	<input type="checkbox"/>					
c. Bread/bread alternate	<input type="checkbox"/>					
d. Salad/raw vegetables	<input type="checkbox"/>					
e. Cooked vegetables	<input type="checkbox"/>					
f. Fruit	<input type="checkbox"/>					
g. Desserts	<input type="checkbox"/>					
h. Other (Specify _____)	<input type="checkbox"/>					
i. Other (Specify _____)	<input type="checkbox"/>					

D. Seating Area

If all students eat lunch in a classroom, check here and go to Section III, Cafeteria Characteristics

1. Were there enough seats for all of the students eating during each period?

	Period				Overall
	1	2	3	4	
Yes	[]	[]	[]	[]	[]
No	[]	[]	[]	[]	[]

1a. IF NO, were additional seats made available?

- [] Yes
- [] No

2. How much do students get up and move around during the course of the meal period?

- [] No apparent limits on movement
- [] Limited movement (throw out trash, get more food, etc.)
- [] No movement. All stay in seats

3. Are students required to sit with their classroom or grade during lunch?

- [] Students sit with their assigned class
- [] Students sit according to their current grade level
- [] No assigned sitting policy

4. What is the noise level in the cafeteria during each lunch period?

	Period				Overall
	1	2	3	4	
Very noisy – have to shout to talk to someone you are sitting next to	[]	[]	[]	[]	[]
Noisy – have to raise your voice a little to talk to someone sitting next to you	[]	[]	[]	[]	[]
Normal – can speak normally to someone sitting next to you	[]	[]	[]	[]	[]
Quiet – hardly anyone speaks	[]	[]	[]	[]	[]

5. Did adults supervise the children during the meal service?

- Yes
- No → SKIP TO Q10

6. Did it appear that there are enough staff on-hand to help the meal period run smoothly?

- Yes → SKIP TO Q8
- No

7. Which areas were short staffed: (CHECK ALL THAT APPLY)

- food service
- adult supervision for students
- janitorial staff

8. Did any staff members sit at the tables with the students during lunch?

- Yes
- No

9. How often during each period did a cafeteria or other school staff ask students to quiet down?

	Period				Overall
	1	2	3	4	
4 times or more	[]	[]	[]	[]	[]
1 – 3 times	[]	[]	[]	[]	[]
Never	[]	[]	[]	[]	[]

10. Is there a trading table in use during lunch? A trading table is a place where students put food they have not tasted

- Yes
- No

11. How many of the students disposed of their own waste properly?

- All
- Most
- Some
- Very few
- None

12. If there is more than one period for lunch, check if the following was done after each period?

	Period				Overall	Not Applicable
	1	2	3	4		
Tables wiped down between sittings	<input type="checkbox"/>					
Spills wiped off chairs	<input type="checkbox"/>					
Trash swept up from floor	<input type="checkbox"/>					
Spills mopped up from floor	<input type="checkbox"/>					
Spills wiped off self-serve bar	<input type="checkbox"/>					

13. Were students allowed to finish their lunch after their designated meal time lapsed?

- Yes
- No
- Varied per class and/or grade level

III. Cafeteria Characteristics

IF MORE THAN ONE LOCATION (CAFETERIA, CLASSROOM, ETC) SERVES REIMBURSABLE LUNCHESES ANSWER THIS SECTION ABOUT THE ONE THAT SERVES THE MOST STUDENTS

1. What is the condition of cafeteria itself?

Walls

- Clean or newly painted, no holes, cracks, chips, or marks
- Some marks or discolorations, or minor cracks or chips
- Holes in wall, cracks wider than ¼ inch, or major discoloration – areas at least as large as this page (8 ½ x 11")

Floor

- Appear clean
- Appear dirty
- Smooth with no stains
- Few or light colored stains or some unevenness
- Discolored, holes or cracks, or very uneven

Ceiling

- Clean, no stains or holes or sagging
- Minor discoloration, or small holes, or chips, or sagging
- Major discoloration, or large or many holes, or very uneven

Windows

- No windows
- Clean, no major obstruction
- Dirty, hard to see out

2. During meal service, how was the lighting level?

- Too bright
- Adequate
- Too dim

3. During meal service, how was the temperature of the room?

- Too hot
- Adequate
- Too cold

4. Are there any of the following types of decorations on the walls or ceiling in the cafeteria?
(PLEASE CHECK ALL THAT APPLY)

- Murals
- Student Art
- Professional Art
- Banners
- Posters
- Other (_____)
- None of the above (SKIP TO Q6)

5. What type of educational information is posted on the cafeteria walls? (PLEASE CHECK ALL THAT APPLY):
- Provide nutrition information
 - Promote healthy eating habits
 - Promote physical activity
 - Promote food safety (e.g., wash hands)
 - Other (_____)
 - No educational information posted
- 5a. (IF ANY CHECKED ABOVE) Is this information prominently displayed?
- Yes
 - No
6. What is the shape of the tables? (PLEASE CHECK ALL THAT APPLY)
- Long, rectangular
 - Square
 - Circular
 - Other (_____)
7. Are seats attached to tables?
- Yes, bench seating
 - Yes, but separate seat for each student
 - No, separate, movable chairs
8. What is the condition of most of the tables and seats?
- Excellent
 - Good
 - Fair
 - Poor
9. Are there handicapped accessible tables?
- Yes
 - No
10. Are there tables and chairs in appropriate sizes for all students? Are smaller chairs available, if needed, for young children?
- Yes
 - No, needed but not available
 - Not needed, no young children use this cafeteria
11. Is free drinking water available to students where school meals are served?
- Yes
 - No (SKIP TO NEXT SECTION)

12. How is free drinking water made available to students during lunch?
- Traditional water fountains located within cafeteria
 - Traditional water fountains located outside cafeteria within 20 feet
 - Water in pitchers, jugs, cups
 - Free bottled water
 - Commercial cooled water coolers
 - Cooled tap water (e.g., Igloo, Cambro)
 - Electronic water hydration station
 - Room temperature tap water
 - Other (SPECIFY _____)

13. During any of the meal periods, were waste disposal containers ever filled to overflowing while students were attempting to dispose of their waste?

	Period				
	1	2	3	4	Overall
Yes	<input type="checkbox"/>				
No	<input type="checkbox"/>				

14. During meal service did you notice any "off" odors in the cafeteria, such as old garbage, chemical odors from disinfectants or other cleaners, diesel fumes from nearby traffic, etc.?

- Yes (SPECIFY) _____
- No

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OTHER FOOD SOURCES CHECKLIST

Date: _____ **Observer Name:** _____

School Name: _____

SFA ID: _____ **School ID:** _____ **Grades:** _____

1. Please check the location of on-campus food sources available to students. **Do not** include vending machines.

Food Source	Number in school or on school grounds	Location of Alternative Food Source				
		In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building	
a. À la carte food lines inside Food Service Area	0 <input type="checkbox"/> None	1 <input type="checkbox"/>				
b. School Store (NOTE: Sells items but does not prepare food)	0 <input type="checkbox"/> None	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	
c. Snack Bar outside Food Service Area (NOTE: Include only snack bars that prepare some food to order.)	0 <input type="checkbox"/> None			2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
d. Food Cart outside Food Service Area	0 <input type="checkbox"/> None			2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
e. Other (Specify) _____	0 <input type="checkbox"/> None	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	

2. Please check the hours of operation for each food source available to students. **Do not** include vending machines.

Food Source	Not Available to Students	Hours of Operation (CHECK ALL THAT APPLY)						
		Before Bkfst	During Bkfst	After Bkfst and Before Classes Start	After Classes Start and Before Lunch	During Lunch	After Lunch and Before Classes End	After Last Class
a. À la carte food lines inside Food Service Area	9 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
b. School Store (NOTE: Sells items but does not prepare food)	9 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
c. Snack Bar outside Food Service Area (NOTE: Include only snack bars that prepare some food to order.)	9 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
d. Food Cart outside Food Service Area	9 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
e. Other (Specify) _____	9 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>

3. Place a check mark in the box corresponding to each food and/or beverage item sold at each Food Source.

Food Item	Availability of Food Item in Other Food Sources				
	À la carte food lines	School Store	Snack Bar	Food Cart	Other (<i>Specify</i> _____)
A. Beverages					
Carbonated Sweetened Soft Drink	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
Carbonated Diet Soft Drink	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>
Juice (100% juice)	3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>
Juice Drinks (Cranberry Drink, Fruit Blends, Hi-C, Lemonade, Punch)	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Iced Tea (sweetened)	5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>
Iced Tea (unsweetened)	6 <input type="checkbox"/>	6 <input type="checkbox"/>	6 <input type="checkbox"/>	6 <input type="checkbox"/>	6 <input type="checkbox"/>
Water (Spring Water, Flavored Water, Sparkling Water, Mineral Water, Seltzer Water)	7 <input type="checkbox"/>	7 <input type="checkbox"/>	7 <input type="checkbox"/>	7 <input type="checkbox"/>	7 <input type="checkbox"/>
Water (Water with Juice)	8 <input type="checkbox"/>	8 <input type="checkbox"/>	8 <input type="checkbox"/>	8 <input type="checkbox"/>	8 <input type="checkbox"/>
Coffee	9 <input type="checkbox"/>	9 <input type="checkbox"/>	9 <input type="checkbox"/>	9 <input type="checkbox"/>	9 <input type="checkbox"/>
Tea (hot)	10 <input type="checkbox"/>	10 <input type="checkbox"/>	10 <input type="checkbox"/>	10 <input type="checkbox"/>	10 <input type="checkbox"/>
Hot Chocolate	11 <input type="checkbox"/>	11 <input type="checkbox"/>	11 <input type="checkbox"/>	11 <input type="checkbox"/>	11 <input type="checkbox"/>
Yogurt Drinks	12 <input type="checkbox"/>	12 <input type="checkbox"/>	12 <input type="checkbox"/>	12 <input type="checkbox"/>	12 <input type="checkbox"/>
Energy and Sports Drinks (Gatorade, Powerade, Red Bull)	13 <input type="checkbox"/>	13 <input type="checkbox"/>	13 <input type="checkbox"/>	13 <input type="checkbox"/>	13 <input type="checkbox"/>
Other (<i>Specify</i> _____)	14 <input type="checkbox"/>	14 <input type="checkbox"/>	14 <input type="checkbox"/>	14 <input type="checkbox"/>	14 <input type="checkbox"/>
B. Dairy					
Whole Milk	15 <input type="checkbox"/>	15 <input type="checkbox"/>	15 <input type="checkbox"/>	15 <input type="checkbox"/>	15 <input type="checkbox"/>
Reduced Fat (2%) White Milk	16 <input type="checkbox"/>	16 <input type="checkbox"/>	16 <input type="checkbox"/>	16 <input type="checkbox"/>	16 <input type="checkbox"/>
Low Fat (1%) White Milk	17 <input type="checkbox"/>	17 <input type="checkbox"/>	17 <input type="checkbox"/>	17 <input type="checkbox"/>	17 <input type="checkbox"/>
Fat-Free White Milk	18 <input type="checkbox"/>	18 <input type="checkbox"/>	18 <input type="checkbox"/>	18 <input type="checkbox"/>	18 <input type="checkbox"/>
Fat-Free Flavored Milk	19 <input type="checkbox"/>	19 <input type="checkbox"/>	19 <input type="checkbox"/>	19 <input type="checkbox"/>	19 <input type="checkbox"/>
Yogurt	20 <input type="checkbox"/>	20 <input type="checkbox"/>	20 <input type="checkbox"/>	20 <input type="checkbox"/>	20 <input type="checkbox"/>
Cheese	21 <input type="checkbox"/>	21 <input type="checkbox"/>	21 <input type="checkbox"/>	21 <input type="checkbox"/>	21 <input type="checkbox"/>
Other (<i>Specify</i> _____)	22 <input type="checkbox"/>	22 <input type="checkbox"/>	22 <input type="checkbox"/>	22 <input type="checkbox"/>	22 <input type="checkbox"/>

Food Item	Availability of Food Item in Other Food Sources				
	À la carte food lines	School Store	Snack Bar	Food Cart	Other (Specify _____)
C. Baked Goods – Dessert					
Cake-Type (Brownies, Cupcakes, Twinkies)	23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>
Cake-Type (Low-Fat/Reduced-Fat Brownies, Cupcakes, Twinkies)	24 <input type="checkbox"/>	24 <input type="checkbox"/>	24 <input type="checkbox"/>	24 <input type="checkbox"/>	24 <input type="checkbox"/>
Cookies	25 <input type="checkbox"/>	25 <input type="checkbox"/>	25 <input type="checkbox"/>	25 <input type="checkbox"/>	25 <input type="checkbox"/>
Cookies (Low-Fat/Reduced Fat)	26 <input type="checkbox"/>	26 <input type="checkbox"/>	26 <input type="checkbox"/>	26 <input type="checkbox"/>	26 <input type="checkbox"/>
Pastries (Pies, Turnovers)	27 <input type="checkbox"/>	27 <input type="checkbox"/>	27 <input type="checkbox"/>	27 <input type="checkbox"/>	27 <input type="checkbox"/>
Other (Specify _____)	28 <input type="checkbox"/>	28 <input type="checkbox"/>	28 <input type="checkbox"/>	28 <input type="checkbox"/>	28 <input type="checkbox"/>
D. Bread or Grain Products					
Regular Bread (Bread, Rolls, Bagels)	29 <input type="checkbox"/>	29 <input type="checkbox"/>	29 <input type="checkbox"/>	29 <input type="checkbox"/>	29 <input type="checkbox"/>
Whole Grain Bread (Bread, Rolls, Bagels)	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>
Other Bread (Biscuits, Croissants, Hot Pretzels)	31 <input type="checkbox"/>	31 <input type="checkbox"/>	31 <input type="checkbox"/>	31 <input type="checkbox"/>	31 <input type="checkbox"/>
Muffins (Regular)	32 <input type="checkbox"/>	32 <input type="checkbox"/>	32 <input type="checkbox"/>	32 <input type="checkbox"/>	32 <input type="checkbox"/>
Muffins (Whole Grain)	33 <input type="checkbox"/>	33 <input type="checkbox"/>	33 <input type="checkbox"/>	33 <input type="checkbox"/>	33 <input type="checkbox"/>
Muffins (Low-Fat/Reduced-Fat)	34 <input type="checkbox"/>	34 <input type="checkbox"/>	34 <input type="checkbox"/>	34 <input type="checkbox"/>	34 <input type="checkbox"/>
Granola Bars	35 <input type="checkbox"/>	35 <input type="checkbox"/>	35 <input type="checkbox"/>	35 <input type="checkbox"/>	35 <input type="checkbox"/>
Granola Bars (Low-Fat/Reduced-Fat)	36 <input type="checkbox"/>	36 <input type="checkbox"/>	36 <input type="checkbox"/>	36 <input type="checkbox"/>	36 <input type="checkbox"/>
Pretzels (Regular, Sourdough)	37 <input type="checkbox"/>	37 <input type="checkbox"/>	37 <input type="checkbox"/>	37 <input type="checkbox"/>	37 <input type="checkbox"/>
Pretzels (Whole Grain)	38 <input type="checkbox"/>	38 <input type="checkbox"/>	38 <input type="checkbox"/>	38 <input type="checkbox"/>	38 <input type="checkbox"/>
Crackers/Cracker Sandwiches: Peanut Butter	39 <input type="checkbox"/>	39 <input type="checkbox"/>	39 <input type="checkbox"/>	39 <input type="checkbox"/>	39 <input type="checkbox"/>
Crackers/Cracker Sandwiches: Cheese	40 <input type="checkbox"/>	40 <input type="checkbox"/>	40 <input type="checkbox"/>	40 <input type="checkbox"/>	40 <input type="checkbox"/>
Cereal/Cereal Bars	41 <input type="checkbox"/>	41 <input type="checkbox"/>	41 <input type="checkbox"/>	41 <input type="checkbox"/>	41 <input type="checkbox"/>
Other (Specify _____)	42 <input type="checkbox"/>	42 <input type="checkbox"/>	42 <input type="checkbox"/>	42 <input type="checkbox"/>	42 <input type="checkbox"/>

Food Item	Availability of Food Item in Other Food Sources				
	À la carte food lines	School Store	Snack Bar	Food Cart	Other (<i>Specify</i> _____)
E. Frozen Desserts					
Frozen Non-Dairy (Fruit Bars, Jello Pops, Popsicles)	43 <input type="checkbox"/>	43 <input type="checkbox"/>	43 <input type="checkbox"/>	43 <input type="checkbox"/>	43 <input type="checkbox"/>
Ice Cream (Bars, Cups, Fudgesicles, Sundaes)	44 <input type="checkbox"/>	44 <input type="checkbox"/>	44 <input type="checkbox"/>	44 <input type="checkbox"/>	44 <input type="checkbox"/>
Low-Fat Frozen Desserts (Frozen Yogurt, Ice Milk, Sherbet)	45 <input type="checkbox"/>	45 <input type="checkbox"/>	45 <input type="checkbox"/>	45 <input type="checkbox"/>	45 <input type="checkbox"/>
Milkshakes	46 <input type="checkbox"/>	46 <input type="checkbox"/>	46 <input type="checkbox"/>	46 <input type="checkbox"/>	46 <input type="checkbox"/>
Smoothies	47 <input type="checkbox"/>	47 <input type="checkbox"/>	47 <input type="checkbox"/>	47 <input type="checkbox"/>	47 <input type="checkbox"/>
F. Fruit and Vegetables					
Canned or Cooked Fruit	48 <input type="checkbox"/>	48 <input type="checkbox"/>	48 <input type="checkbox"/>	48 <input type="checkbox"/>	48 <input type="checkbox"/>
Fresh Fruit (whole, cut)	49 <input type="checkbox"/>	49 <input type="checkbox"/>	49 <input type="checkbox"/>	49 <input type="checkbox"/>	49 <input type="checkbox"/>
Fruit Salad (Fresh)	50 <input type="checkbox"/>	50 <input type="checkbox"/>	50 <input type="checkbox"/>	50 <input type="checkbox"/>	50 <input type="checkbox"/>
Fruit Salad (Canned in Water)	51 <input type="checkbox"/>	51 <input type="checkbox"/>	51 <input type="checkbox"/>	51 <input type="checkbox"/>	51 <input type="checkbox"/>
Fruit Salad (Canned in Light Syrup)	52 <input type="checkbox"/>	52 <input type="checkbox"/>	52 <input type="checkbox"/>	52 <input type="checkbox"/>	52 <input type="checkbox"/>
Dried Fruit	53 <input type="checkbox"/>	53 <input type="checkbox"/>	53 <input type="checkbox"/>	53 <input type="checkbox"/>	53 <input type="checkbox"/>
Other Fresh Fruit (<i>Specify</i> _____)	54 <input type="checkbox"/>	54 <input type="checkbox"/>	54 <input type="checkbox"/>	54 <input type="checkbox"/>	54 <input type="checkbox"/>
Vegetables, Side Salad	55 <input type="checkbox"/>	55 <input type="checkbox"/>	55 <input type="checkbox"/>	55 <input type="checkbox"/>	55 <input type="checkbox"/>
Vegetables, Raw	56 <input type="checkbox"/>	56 <input type="checkbox"/>	56 <input type="checkbox"/>	56 <input type="checkbox"/>	56 <input type="checkbox"/>
Other Fresh Vegetables (<i>Specify</i> _____)	57 <input type="checkbox"/>	57 <input type="checkbox"/>	57 <input type="checkbox"/>	57 <input type="checkbox"/>	57 <input type="checkbox"/>
G. Snacks					
Chips (Corn, Potato, Tortilla)	58 <input type="checkbox"/>	58 <input type="checkbox"/>	58 <input type="checkbox"/>	58 <input type="checkbox"/>	58 <input type="checkbox"/>
Chips (Lower-Fat/Reduced-Fat Corn, Potato, Tortilla)	59 <input type="checkbox"/>	59 <input type="checkbox"/>	59 <input type="checkbox"/>	59 <input type="checkbox"/>	59 <input type="checkbox"/>
Puffed Cheese (Regular)	60 <input type="checkbox"/>	60 <input type="checkbox"/>	60 <input type="checkbox"/>	60 <input type="checkbox"/>	60 <input type="checkbox"/>
Puffed Cheese (Lower-Fat/Reduced-Fat)	61 <input type="checkbox"/>	61 <input type="checkbox"/>	61 <input type="checkbox"/>	61 <input type="checkbox"/>	61 <input type="checkbox"/>
Nuts and Seeds (Almonds, Peanuts, Sunflower Seeds, Trail Mix)	62 <input type="checkbox"/>	62 <input type="checkbox"/>	62 <input type="checkbox"/>	62 <input type="checkbox"/>	62 <input type="checkbox"/>
Fruit Snacks (Roll-Up, Gummies)	63 <input type="checkbox"/>	63 <input type="checkbox"/>	63 <input type="checkbox"/>	63 <input type="checkbox"/>	63 <input type="checkbox"/>

Food Item	Availability of Food Item in Other Food Sources				
	À la carte food lines	School Store	Snack Bar	Food Cart	Other (Specify _____)
Popcorn	64 <input type="checkbox"/>	64 <input type="checkbox"/>	64 <input type="checkbox"/>	64 <input type="checkbox"/>	64 <input type="checkbox"/>
Meat Snacks (Jerky, Pork Rinds)	65 <input type="checkbox"/>	65 <input type="checkbox"/>	65 <input type="checkbox"/>	65 <input type="checkbox"/>	65 <input type="checkbox"/>
Candy with Chocolate	66 <input type="checkbox"/>	66 <input type="checkbox"/>	66 <input type="checkbox"/>	66 <input type="checkbox"/>	66 <input type="checkbox"/>
Candy without Chocolate	67 <input type="checkbox"/>	67 <input type="checkbox"/>	67 <input type="checkbox"/>	67 <input type="checkbox"/>	67 <input type="checkbox"/>
Energy Bars (Balance Bars, Luna Bars, Power Bars, etc)	68 <input type="checkbox"/>	68 <input type="checkbox"/>	68 <input type="checkbox"/>	68 <input type="checkbox"/>	68 <input type="checkbox"/>
Other (Specify _____)	69 <input type="checkbox"/>	69 <input type="checkbox"/>	69 <input type="checkbox"/>	69 <input type="checkbox"/>	69 <input type="checkbox"/>
H. Prepared / Pre-Prepared Entrees and Food					
Hot Dogs	70 <input type="checkbox"/>	70 <input type="checkbox"/>	70 <input type="checkbox"/>	70 <input type="checkbox"/>	70 <input type="checkbox"/>
Hamburgers or Cheeseburgers	71 <input type="checkbox"/>	71 <input type="checkbox"/>	71 <input type="checkbox"/>	71 <input type="checkbox"/>	71 <input type="checkbox"/>
Veggie Burgers	72 <input type="checkbox"/>	72 <input type="checkbox"/>	72 <input type="checkbox"/>	72 <input type="checkbox"/>	72 <input type="checkbox"/>
Grilled Sandwiches	73 <input type="checkbox"/>	73 <input type="checkbox"/>	73 <input type="checkbox"/>	73 <input type="checkbox"/>	73 <input type="checkbox"/>
Cold Sandwiches	74 <input type="checkbox"/>	74 <input type="checkbox"/>	74 <input type="checkbox"/>	74 <input type="checkbox"/>	74 <input type="checkbox"/>
Burritos	75 <input type="checkbox"/>	75 <input type="checkbox"/>	75 <input type="checkbox"/>	75 <input type="checkbox"/>	75 <input type="checkbox"/>
Taco	76 <input type="checkbox"/>	76 <input type="checkbox"/>	76 <input type="checkbox"/>	76 <input type="checkbox"/>	76 <input type="checkbox"/>
Meal-Size Salad	77 <input type="checkbox"/>	77 <input type="checkbox"/>	77 <input type="checkbox"/>	77 <input type="checkbox"/>	77 <input type="checkbox"/>
Pizza (Slice)	78 <input type="checkbox"/>	78 <input type="checkbox"/>	78 <input type="checkbox"/>	78 <input type="checkbox"/>	78 <input type="checkbox"/>
Pizza (Bites)	79 <input type="checkbox"/>	79 <input type="checkbox"/>	79 <input type="checkbox"/>	79 <input type="checkbox"/>	79 <input type="checkbox"/>
Pasta	80 <input type="checkbox"/>	80 <input type="checkbox"/>	80 <input type="checkbox"/>	80 <input type="checkbox"/>	80 <input type="checkbox"/>
French Fries	81 <input type="checkbox"/>	81 <input type="checkbox"/>	81 <input type="checkbox"/>	81 <input type="checkbox"/>	81 <input type="checkbox"/>
Onion Rings	82 <input type="checkbox"/>	82 <input type="checkbox"/>	82 <input type="checkbox"/>	82 <input type="checkbox"/>	82 <input type="checkbox"/>
Mozzarella Sticks	83 <input type="checkbox"/>	83 <input type="checkbox"/>	83 <input type="checkbox"/>	83 <input type="checkbox"/>	83 <input type="checkbox"/>
Other (Specify _____)	84 <input type="checkbox"/>	84 <input type="checkbox"/>	84 <input type="checkbox"/>	84 <input type="checkbox"/>	84 <input type="checkbox"/>

Food Item	Availability of Food Item in Other Food Sources				
	À la carte food lines	School Store	Snack Bar	Food Cart	Other (Specify _____)
I. Other (Specify)					
_____	85 <input type="checkbox"/>	85 <input type="checkbox"/>	85 <input type="checkbox"/>	85 <input type="checkbox"/>	85 <input type="checkbox"/>
_____	86 <input type="checkbox"/>	86 <input type="checkbox"/>	86 <input type="checkbox"/>	86 <input type="checkbox"/>	86 <input type="checkbox"/>
_____	87 <input type="checkbox"/>	87 <input type="checkbox"/>	87 <input type="checkbox"/>	87 <input type="checkbox"/>	87 <input type="checkbox"/>
_____	88 <input type="checkbox"/>	88 <input type="checkbox"/>	88 <input type="checkbox"/>	88 <input type="checkbox"/>	88 <input type="checkbox"/>
_____	89 <input type="checkbox"/>	89 <input type="checkbox"/>	89 <input type="checkbox"/>	89 <input type="checkbox"/>	89 <input type="checkbox"/>
_____	90 <input type="checkbox"/>	90 <input type="checkbox"/>	90 <input type="checkbox"/>	90 <input type="checkbox"/>	90 <input type="checkbox"/>

VENDING MACHINE CHECKLIST

School Name:	_____		
Observer Name:	_____		
Date:	_____	SFA ID: _____	School ID: _____
Grades:	_____		

1. Please record the number of each type of vending machine available to students by location of machines.

Food Source	Location of Vending Machines			
	In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building
a. Milk only				
b. Water only				
c. Milk with juice/water (no soft drinks)				
d. Water with juice (no soft drinks)				
e. Non-carbonated soft drinks with or without water/milk				
f. Carbonated soft drinks with or without water				
g. Snacks/candy/cookies				
h. Entrees, non-refrigerated				
i. Frozen foods				
j. Combination (<i>Specify</i> _____)				
k. Combination (<i>Specify</i> _____)				
l. Combination (<i>Specify</i> _____)				
m. Combination (<i>Specify</i> _____)				
n. Other (<i>Specify</i> _____)				
o. Other (<i>Specify</i> _____)				
p. Other (<i>Specify</i> _____)				
q. Other (<i>Specify</i> _____)				

2. Place a check mark in the box corresponding to each food and/or beverage item sold in vending machines by location of machine.

Food Item	Availability of Food Item in Vending Machines			
	In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building
A. Beverages				
Carbonated Sweetened Soft Drink	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
Carbonated Diet Soft Drink	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>
Juice (100% juice)	3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>
Juice Drinks (Cranberry Drink, Fruit Blends, Hi-C, Lemonade, Punch)	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Iced Tea (sweetened)	5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>
Iced Tea (unsweetened)	6 <input type="checkbox"/>	6 <input type="checkbox"/>	6 <input type="checkbox"/>	6 <input type="checkbox"/>
Water (Spring Water, Flavored Water, Sparkling Water, Mineral Water, Seltzer Water)	7 <input type="checkbox"/>	7 <input type="checkbox"/>	7 <input type="checkbox"/>	7 <input type="checkbox"/>
Water (Water with Juice)	8 <input type="checkbox"/>	8 <input type="checkbox"/>	8 <input type="checkbox"/>	8 <input type="checkbox"/>
Coffee	9 <input type="checkbox"/>	9 <input type="checkbox"/>	9 <input type="checkbox"/>	9 <input type="checkbox"/>
Tea (hot)	10 <input type="checkbox"/>	10 <input type="checkbox"/>	10 <input type="checkbox"/>	10 <input type="checkbox"/>
Hot Chocolate	11 <input type="checkbox"/>	11 <input type="checkbox"/>	11 <input type="checkbox"/>	11 <input type="checkbox"/>
Yogurt Drinks	12 <input type="checkbox"/>	12 <input type="checkbox"/>	12 <input type="checkbox"/>	12 <input type="checkbox"/>
Energy and Sports Drinks (Gatorade, Powerade, Red Bull)	13 <input type="checkbox"/>	13 <input type="checkbox"/>	13 <input type="checkbox"/>	13 <input type="checkbox"/>
Other (<i>Specify _____</i>)	14 <input type="checkbox"/>	14 <input type="checkbox"/>	14 <input type="checkbox"/>	14 <input type="checkbox"/>
B. Dairy				
Whole Milk	15 <input type="checkbox"/>	15 <input type="checkbox"/>	15 <input type="checkbox"/>	15 <input type="checkbox"/>
Reduced Fat (2%) White Milk	16 <input type="checkbox"/>	16 <input type="checkbox"/>	16 <input type="checkbox"/>	16 <input type="checkbox"/>
Low Fat (1%) White Milk	17 <input type="checkbox"/>	17 <input type="checkbox"/>	17 <input type="checkbox"/>	17 <input type="checkbox"/>
Fat-Free White Milk	18 <input type="checkbox"/>	18 <input type="checkbox"/>	18 <input type="checkbox"/>	18 <input type="checkbox"/>
Fat-Free Flavored Milk	19 <input type="checkbox"/>	19 <input type="checkbox"/>	19 <input type="checkbox"/>	19 <input type="checkbox"/>
Yogurt	20 <input type="checkbox"/>	20 <input type="checkbox"/>	20 <input type="checkbox"/>	20 <input type="checkbox"/>
Cheese	21 <input type="checkbox"/>	21 <input type="checkbox"/>	21 <input type="checkbox"/>	21 <input type="checkbox"/>
Other (<i>Specify _____</i>)	22 <input type="checkbox"/>	22 <input type="checkbox"/>	22 <input type="checkbox"/>	22 <input type="checkbox"/>

Food Item	Availability of Food Item in Vending Machines			
	In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building
C. Baked Goods – Dessert				
Cake-Type (Brownies, Cupcakes, Twinkies)	23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>	23 <input type="checkbox"/>
Cake-Type (Low-Fat/Reduced-Fat Brownies, Cupcakes, Twinkies)	24 <input type="checkbox"/>	24 <input type="checkbox"/>	24 <input type="checkbox"/>	24 <input type="checkbox"/>
Cookies	25 <input type="checkbox"/>	25 <input type="checkbox"/>	25 <input type="checkbox"/>	25 <input type="checkbox"/>
Cookies (Low-Fat/Reduced Fat)	26 <input type="checkbox"/>	26 <input type="checkbox"/>	26 <input type="checkbox"/>	26 <input type="checkbox"/>
Pastries (Pies, Turnovers)	27 <input type="checkbox"/>	27 <input type="checkbox"/>	27 <input type="checkbox"/>	27 <input type="checkbox"/>
Other (Specify _____)	28 <input type="checkbox"/>	28 <input type="checkbox"/>	28 <input type="checkbox"/>	28 <input type="checkbox"/>
D. Bread or Grain Products				
Regular Bread (Bread, Rolls, Bagels)	29 <input type="checkbox"/>	29 <input type="checkbox"/>	29 <input type="checkbox"/>	29 <input type="checkbox"/>
Whole Grain Bread (Bread, Rolls, Bagels)	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>
Other Bread (Biscuits, Croissants, Hot Pretzels)	31 <input type="checkbox"/>	31 <input type="checkbox"/>	31 <input type="checkbox"/>	31 <input type="checkbox"/>
Muffins (Regular)	32 <input type="checkbox"/>	32 <input type="checkbox"/>	32 <input type="checkbox"/>	32 <input type="checkbox"/>
Muffins (Whole Grain)	33 <input type="checkbox"/>	33 <input type="checkbox"/>	33 <input type="checkbox"/>	33 <input type="checkbox"/>
Muffins (Low-Fat/Reduced-Fat)	34 <input type="checkbox"/>	34 <input type="checkbox"/>	34 <input type="checkbox"/>	34 <input type="checkbox"/>
Granola Bars	35 <input type="checkbox"/>	35 <input type="checkbox"/>	35 <input type="checkbox"/>	35 <input type="checkbox"/>
Granola Bars (Low-Fat/Reduced-Fat)	36 <input type="checkbox"/>	36 <input type="checkbox"/>	36 <input type="checkbox"/>	36 <input type="checkbox"/>
Pretzels (Regular, Sourdough)	37 <input type="checkbox"/>	37 <input type="checkbox"/>	37 <input type="checkbox"/>	37 <input type="checkbox"/>
Pretzels (Whole Grain)	38 <input type="checkbox"/>	38 <input type="checkbox"/>	38 <input type="checkbox"/>	38 <input type="checkbox"/>
Crackers/Cracker Sandwiches: Peanut Butter	39 <input type="checkbox"/>	39 <input type="checkbox"/>	39 <input type="checkbox"/>	39 <input type="checkbox"/>
Crackers/Cracker Sandwiches: Cheese	40 <input type="checkbox"/>	40 <input type="checkbox"/>	40 <input type="checkbox"/>	40 <input type="checkbox"/>
Cereal/Cereal Bars	41 <input type="checkbox"/>	41 <input type="checkbox"/>	41 <input type="checkbox"/>	41 <input type="checkbox"/>
Other (Specify _____)	42 <input type="checkbox"/>	42 <input type="checkbox"/>	42 <input type="checkbox"/>	42 <input type="checkbox"/>

Food Item	Availability of Food Item in Vending Machines			
	In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building
E. Frozen Desserts				
Frozen Non-Dairy (Fruit Bars, Jello Pops, Popsicles)	43 <input type="checkbox"/>	43 <input type="checkbox"/>	43 <input type="checkbox"/>	43 <input type="checkbox"/>
Ice Cream (Bars, Cups, Fudgesicles, Sundaes)	44 <input type="checkbox"/>	44 <input type="checkbox"/>	44 <input type="checkbox"/>	44 <input type="checkbox"/>
Low-Fat Frozen Desserts (Frozen Yogurt, Ice Milk, Sherbet)	45 <input type="checkbox"/>	45 <input type="checkbox"/>	45 <input type="checkbox"/>	45 <input type="checkbox"/>
Milkshakes	46 <input type="checkbox"/>	46 <input type="checkbox"/>	46 <input type="checkbox"/>	46 <input type="checkbox"/>
Smoothies	47 <input type="checkbox"/>	47 <input type="checkbox"/>	47 <input type="checkbox"/>	47 <input type="checkbox"/>
F. Fruit and Vegetables				
Canned or Cooked Fruit	48 <input type="checkbox"/>	48 <input type="checkbox"/>	48 <input type="checkbox"/>	48 <input type="checkbox"/>
Fresh Fruit (whole, cut)	49 <input type="checkbox"/>	49 <input type="checkbox"/>	49 <input type="checkbox"/>	49 <input type="checkbox"/>
Fruit Salad (Fresh)	50 <input type="checkbox"/>	50 <input type="checkbox"/>	50 <input type="checkbox"/>	50 <input type="checkbox"/>
Fruit Salad (Canned in Water)	51 <input type="checkbox"/>	51 <input type="checkbox"/>	51 <input type="checkbox"/>	51 <input type="checkbox"/>
Fruit Salad (Canned in Light Syrup)	52 <input type="checkbox"/>	52 <input type="checkbox"/>	52 <input type="checkbox"/>	52 <input type="checkbox"/>
Dried Fruit	53 <input type="checkbox"/>	53 <input type="checkbox"/>	53 <input type="checkbox"/>	53 <input type="checkbox"/>
Other Fresh Fruit (<i>Specify _____</i>)	54 <input type="checkbox"/>	54 <input type="checkbox"/>	54 <input type="checkbox"/>	54 <input type="checkbox"/>
Vegetables, Side Salad	55 <input type="checkbox"/>	55 <input type="checkbox"/>	55 <input type="checkbox"/>	55 <input type="checkbox"/>
Vegetables, Raw	56 <input type="checkbox"/>	56 <input type="checkbox"/>	56 <input type="checkbox"/>	56 <input type="checkbox"/>
Other Fresh Vegetables (<i>Specify _____</i>)	57 <input type="checkbox"/>	57 <input type="checkbox"/>	57 <input type="checkbox"/>	57 <input type="checkbox"/>
G. Snacks				
Chips (Corn, Potato, Tortilla)	58 <input type="checkbox"/>	58 <input type="checkbox"/>	58 <input type="checkbox"/>	58 <input type="checkbox"/>
Chips (Lower-Fat/Reduced-Fat Corn, Potato, Tortilla)	59 <input type="checkbox"/>	59 <input type="checkbox"/>	59 <input type="checkbox"/>	59 <input type="checkbox"/>
Puffed Cheese (Regular)	60 <input type="checkbox"/>	60 <input type="checkbox"/>	60 <input type="checkbox"/>	60 <input type="checkbox"/>
Puffed Cheese (Lower-Fat/Reduced-Fat)	61 <input type="checkbox"/>	61 <input type="checkbox"/>	61 <input type="checkbox"/>	61 <input type="checkbox"/>
Nuts and Seeds (Almonds, Peanuts, Sunflower Seeds, Trail Mix)	62 <input type="checkbox"/>	62 <input type="checkbox"/>	62 <input type="checkbox"/>	62 <input type="checkbox"/>

Food Item	Availability of Food Item in Vending Machines			
	In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building
Fruit Snacks (Roll-Up, Gummies)	63 <input type="checkbox"/>	63 <input type="checkbox"/>	63 <input type="checkbox"/>	63 <input type="checkbox"/>
Popcorn	64 <input type="checkbox"/>	64 <input type="checkbox"/>	64 <input type="checkbox"/>	64 <input type="checkbox"/>
Meat Snacks (Jerky, Pork Rinds)	65 <input type="checkbox"/>	65 <input type="checkbox"/>	65 <input type="checkbox"/>	65 <input type="checkbox"/>
Candy with Chocolate	66 <input type="checkbox"/>	66 <input type="checkbox"/>	66 <input type="checkbox"/>	66 <input type="checkbox"/>
Candy without Chocolate	67 <input type="checkbox"/>	67 <input type="checkbox"/>	67 <input type="checkbox"/>	67 <input type="checkbox"/>
Energy Bars (Balance Bars, Luna Bars, Power Bars, etc)	68 <input type="checkbox"/>	68 <input type="checkbox"/>	68 <input type="checkbox"/>	68 <input type="checkbox"/>
Other (<i>Specify _____</i>)	69 <input type="checkbox"/>	69 <input type="checkbox"/>	69 <input type="checkbox"/>	69 <input type="checkbox"/>
H. Prepared / Pre-Prepared Entrees and Food				
Hot Dogs	70 <input type="checkbox"/>	70 <input type="checkbox"/>	70 <input type="checkbox"/>	70 <input type="checkbox"/>
Hamburgers or Cheeseburgers	71 <input type="checkbox"/>	71 <input type="checkbox"/>	71 <input type="checkbox"/>	71 <input type="checkbox"/>
Veggie Burgers	72 <input type="checkbox"/>	72 <input type="checkbox"/>	72 <input type="checkbox"/>	72 <input type="checkbox"/>
Grilled Sandwiches	73 <input type="checkbox"/>	73 <input type="checkbox"/>	73 <input type="checkbox"/>	73 <input type="checkbox"/>
Cold Sandwiches	74 <input type="checkbox"/>	74 <input type="checkbox"/>	74 <input type="checkbox"/>	74 <input type="checkbox"/>
Burritos	75 <input type="checkbox"/>	75 <input type="checkbox"/>	75 <input type="checkbox"/>	75 <input type="checkbox"/>
Taco	76 <input type="checkbox"/>	76 <input type="checkbox"/>	76 <input type="checkbox"/>	76 <input type="checkbox"/>
Meal-Size Salad	77 <input type="checkbox"/>	77 <input type="checkbox"/>	77 <input type="checkbox"/>	77 <input type="checkbox"/>
Pizza (Slice)	78 <input type="checkbox"/>	78 <input type="checkbox"/>	78 <input type="checkbox"/>	78 <input type="checkbox"/>
Pizza (Bites)	79 <input type="checkbox"/>	79 <input type="checkbox"/>	79 <input type="checkbox"/>	79 <input type="checkbox"/>
Pasta	80 <input type="checkbox"/>	80 <input type="checkbox"/>	80 <input type="checkbox"/>	80 <input type="checkbox"/>
French Fries	81 <input type="checkbox"/>	81 <input type="checkbox"/>	81 <input type="checkbox"/>	81 <input type="checkbox"/>
Onion Rings	82 <input type="checkbox"/>	82 <input type="checkbox"/>	82 <input type="checkbox"/>	82 <input type="checkbox"/>
Mozzarella Sticks	83 <input type="checkbox"/>	83 <input type="checkbox"/>	83 <input type="checkbox"/>	83 <input type="checkbox"/>
Other (<i>Specify _____</i>)	84 <input type="checkbox"/>	84 <input type="checkbox"/>	84 <input type="checkbox"/>	84 <input type="checkbox"/>

Food Item	Availability of Food Item in Vending Machines			
	In food service area	Adjacent to food service area (within 20 feet)	Elsewhere in school building	Outside of school building
I. Other (Specify)				
_____	85 <input type="checkbox"/>	85 <input type="checkbox"/>	85 <input type="checkbox"/>	85 <input type="checkbox"/>
_____	86 <input type="checkbox"/>	86 <input type="checkbox"/>	86 <input type="checkbox"/>	86 <input type="checkbox"/>
_____	87 <input type="checkbox"/>	87 <input type="checkbox"/>	87 <input type="checkbox"/>	87 <input type="checkbox"/>
_____	88 <input type="checkbox"/>	88 <input type="checkbox"/>	88 <input type="checkbox"/>	88 <input type="checkbox"/>
_____	89 <input type="checkbox"/>	89 <input type="checkbox"/>	89 <input type="checkbox"/>	89 <input type="checkbox"/>
_____	90 <input type="checkbox"/>	90 <input type="checkbox"/>	90 <input type="checkbox"/>	90 <input type="checkbox"/>