

## School Food Environment of Charter Schools in St. Louis

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*Please note that this study was published before the SY2014-15 implementation of the Smart Snacks Nutrition Standards for Competitive Food in Schools, as required by the Healthy, Hunger-Free Kids Act of 2010. As such, certain research relating to food in schools may not be relevant today.*

### ABSTRACT

#### **Purpose/Objectives**

The purpose of this study was to explore the school food environment of charter schools in Saint Louis, Missouri. The objectives were to: (1) describe the participation of charter schools in the National School Lunch Program and (2) describe the prevalence of competitive foods in charter schools.

#### **Methods**

School administrators were surveyed via telephone. The survey consisted of five data elements: demographics, practices and policies, school meals program, vending machines, and school stores and snack bars. Questions required yes/no, multiple choice, or short answers. Data was self-reported and no observations were conducted to validate responses. Results were summarized using descriptive statistics.

#### **Results**

Fourteen schools participated in the study. Eight schools used food and beverages as rewards and the vast majority (11 schools) reported they did not have a policy regarding the nutrient quality of these reward foods. None of the schools had a policy for food sold during school sporting events or available during faculty meetings. Three schools reported having vending machines in their schools. Two schools reported use of school stores and snack bars. On average, 78% of students across all charter schools qualified for free and reduced-price lunch; daily participation in school lunch ranged between 35% and 95%. Ten of the 14 schools used an external food service management company.

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

This study provides a broad snapshot of the federally reimbursable meals and competitive foods sold at charter schools in Saint Louis. The results may be useful to a variety of individuals working to evaluate and improve the school food environment including school nutrition personnel, school wellness committees, food service management companies, and community members. Activities such as policy writing, menu development, and nutrition education programming may also be enhanced by the results of this study.

### INTRODUCTION

With the realization that students needed meal assistance at school, three significant pieces of legislation and policy created and influenced school nutrition programs in the past century—the establishment of the National School Lunch Program (NSLP) via the passage of the National School Lunch Act in 1946, the establishment of the School Breakfast Program (SBP) with the passage of

the Child Nutrition Act of 1966, and the application of the Dietary Guidelines for Americans to ensure adequate nutrition of federally reimbursed meals with the passage of the Healthy Meals for Healthy Americans Act of 1994 (National School Lunch Act, 1946; Child Nutrition Act, 1966; Healthy Meals for Healthy Americans Act, 1994). However, more recently, given the rising prevalence of overweight and obese children, the focus is on whether school meals are providing calories and certain nutrients in excess (Story, Nannery, & Schwartz, 2009). Heightened attention is also on competitive foods, or foods and beverages sold at school separate from the federal school meal program, regardless of their nutritional value (U.S. Department of Agriculture [USDA], 2001). Via two primary avenues-federally sponsored meal programs and competitive foods-schools are in a unique and powerful position to influence children's dietary habits on a daily basis (Institute of Medicine [IOM], 2007).

### **Federally Sponsored School Meal Programs**

The NSLP has been guided by the School Meals Initiative for Healthy Children (SMI) since 1995. In order to assess the progress of applying the standards, the School Nutrition Dietary Assessment (SNDA) studies uniquely assessed the NSLP. The most recent study (SNDA-III) reported interesting results; specifically, more than 85% of schools offered reimbursable lunches that met the SMI standards for some of the key nutrients such as energy, protein, vitamins A and C, calcium, and iron, though only 6% of the schools met all the SMI standards. What's more, only 20% of the schools met the total fat standard, and only 33% met the saturated fat standard (Crepinsik, Gordon, McKinney, Condon, & Wilson, 2009).

### **Competitive Foods**

In addition to school meal programs, competitive foods can significantly shape the school food environment. Competitive foods can be purchased a la carte in the cafeteria, from vending machines, school stores, or fundraising events, or even offered as snacks and rewards for classroom parties and school celebrations (IOM, 2007). One study, based on data from the National Health and Examination Survey (NHANES), found that competitive foods were available in 73% of elementary schools, 97% of middle schools, and 100% of high schools (Fox, Gordon, Nogales, & Wilson, 2009). Competitive tend to be low-nutrient, energy-dense foods such as candy, desserts, salty snacks, French fries, muffins, donuts, sweet rolls, toaster pastries, and caloric beverages other than milk or 100% juice (Gordon, Crepinsek, Nogales, & Condon, 2007).

### **School Food Environment**

Several studies have examined the school food environment as a whole, including two national surveillance activities sponsored by the Centers for Disease Control and Prevention: School Health Policies and Practices Study (SHPPS) and the School Health Profiles. SHPPS produces a report card for the state and district levels; the most recent Missouri report card shows that only some categories of schools are required to serve breakfast, while no schools are required to serve lunch. Missouri law neither requires nor recommends that schools prohibit student access to vending machines (Centers for Disease Control and Prevention [CDC], 2006). School Health Profiles is a system of surveys used to assess school health policies and practices. Results from the 2010 surveys revealed several pertinent statistics about the school food environment in Missouri. For example, only 13% of schools consistently offered fruits or non-fried vegetables as competitive foods, and only 23% prohibited all forms of advertising and promotion of candy, fast food restaurants, or soft drinks (CDC, 2010).

### **School Wellness Policies**

A key element of the school food environment is the school wellness policy, which may guide expectations of the lunch program and competitive foods. As of the 2006-2007 school year, schools are required to establish a school wellness policy under Section 204 of the Healthy, Hunger-Free Kids Act of 2010, a significant component of which would address school meals and competitive foods. The purpose of a wellness policy is to "promote student wellness, prevent and reduce childhood obesity, and provide assurance that school meal nutrition guidelines meet the minimum Federal school meal standards (USDA, 2011).

## **Charter Schools**

While ample research has been conducted about the school food environment in public schools, it would be appropriate to also evaluate the school food environments of charter schools, which are publicly funded schools not subject to the same rules and regulations as other public schools (National Education Association, 2012). Charter schools are considered public schools in that they are tuition-free and open to all students, non-sectarian, accountable to state and federal academic standards, and are publicly funded by local, state, and federal tax dollars. Through innovative methods (i.e. longer school days or modern learning models), charter schools are intended to improve the public school system (National Alliance for Public Charter Schools, 2013).

Over 200 studies have researched effectiveness of charter schools. The most expansive surveyed 99% of all elementary students enrolled in charter schools and concluded that those students were 5.2% more likely to be proficient in reading and 3.2% more proficient in math compared to students in traditional school districts (Hoxby, 2004). However, participation in the NSLP and prevalence of competitive foods has yet to be studied among charter schools.

Given the autonomy with which charter schools operate, it is possible that the school food environment may differ from that within a traditional school district. For instance, though charter schools are eligible to participate in the NSLP, they are not bound to a contract with a particular foodservice management company or to a district-wide wellness policy dictating regulations of competitive foods.

## **Purpose/Objectives**

The purpose of this study was to explore the school food environment of charter schools in Saint Louis, Missouri. The objectives were to: (1) describe the participation of charter schools in the NSLP and to (2) describe the prevalence of competitive foods in charter schools.

# **METHODS**

## **Sample**

Implementation of the study required surveying key administrators of each of the charter schools in the city of Saint Louis (N=19). Eligible schools were required to be registered through the Missouri Department of Elementary and Secondary Education as charter schools within the urban Saint Louis city limits. Schools could serve any grade levels, ranging from Kindergarten through 12th grade. The key administrators at each school were identified through the Missouri Department of Elementary and Secondary Education website. Titles of the key administrators varied slightly at each school and included Principal, Head of School, Director, or Executive Director. If the key administrator directed the request to a different staff member of the school with more relevant expertise, the referral was accepted as a satisfactory substitute. This study was determined to be exempt by the Saint Louis University Institutional Review Board.

## **Survey Tool**

The survey was adapted from the Division of Epidemiology at the University of Minnesota in cooperation with the Minnesota Association of Secondary School Principals (2002). The original survey was adapted by selecting only the questions relevant to this study. The adapted survey included five sections: Demographic Information of the School, Practices and Policies, School Meals Program, Vending Machines, and School Stores and Snack Bars. The first data element asked questions about the population of the school and the range of grades taught. The second data element asked questions about practices and policies at each school in relation to where food and beverages are allowed, how food may be obtained during lunch (i.e. leaving school grounds), and using food as rewards or incentives. Questions regarding policies on the nutrient quality of food and drink items sold in various circumstances and locations of the school were also included. The third data element asked questions about the percentage of students who qualified for free and reduced price lunch, the percentage of students that participated in the program on a daily basis, the entity

providing the school lunch, and whether or not commercial fast food vendors were permitted to sell their food during lunch. The fourth data element asked questions about the number of vending machines available, the weekly sales, how funding was distributed, and if there were existing contracts with soft drink companies. The fifth data element asked questions to determine who operated school stores and snack bars and who controlled the profits.

Questions were answered by a combination of yes/no, multiple choice, and short answers. Face validity was established after a review by dietitians and a statistician familiar with school lunch requirements and research protocols.

### Data Collection and Analyses

Key administrators were contacted by the primary investigator via telephone. Each administrator received an explanation of the study including background, purpose, time commitment, and assurance of confidentiality, followed by a request for informed consent to continue with the survey process. All interviews occurred during a span of four weeks from July to August 2012. Descriptive statistics were calculated and data analyzed using the software SPSS version 18 (2009) with the support of the Saint Louis University Center for Outcomes Research.

## RESULTS AND DISCUSSION

Of the 19 schools contacted, 14 consented to participate in the study (74%). The results are described below in accordance with the five components of the survey: demographics, practices and policies, school meals program, vending machines, and school stores and snack bars.

### Demographics

All but one of the schools (93%) surveyed had fewer than 500 students enrolled, while one school fell within the 500-1,000 range. As expected, charter schools tend to be smaller in size given the generally younger ages of the schools, as well as intentional efforts to grow slowly and ensure that the quality of education is not compromised. In terms of the grade levels served, nine of schools served grades 1-5, eight of the schools served grades 6-8, and six served grades 9-12.

### Practices and Policies

Eight of the 14 schools permitted both food and beverages in the classroom, while a majority permitted either food (12 schools) or beverages (10 schools) in hallways (Table 1). Exactly half the schools permitted students to bring food (or have parents bring food) from local fast food restaurants, while only one school, a high school, permitted students to leave school grounds during lunch. Given that a smaller percentage of schools served the higher grade levels, it is not surprising that most schools forbade leaving grounds during lunch.

<b>Students are allowed to.</b>	<b>Yes</b>	<b>No</b>
Have food in the classroom	8	6
Have beverages in the classroom	8	6
Have food in the hallways	2	12
Have beverages in the hallways	4	10
Bring food (or have parents bring food) into the school from local fast food restaurants	7	7

Table 1. *Practices and policies of charter schools relative to food and beverages (N=14).*

Leave school grounds during lunch	1	13
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Three schools had vending machines and only one of those schools had a policy to address the nutrient quality of food and beverages sold (Table 2). Two schools had school stores and both had policies to address the nutrient quality of food and beverages sold. Eight schools sold food and beverages for classroom fundraising and only one of those schools had a policy to address the nutrient quality of food and beverages sold. A majority of schools did not have a policy for the food and beverages offered to students as incentives or rewards (11 schools) or offered to students during school gatherings (9 schools). No school had a policy for the food and beverages sold during sporting events or available for faculty and staff during meetings.

Results from this study were consistent with a nationwide study published by the Robert Wood Johnson Foundation. (Chriqui, Schneider, Chaloupka, Ide, & Pugach, 2009). The report provided a comprehensive review of wellness policies during the 2006-2007 and 2007-2008 school years. Results from the study showed that more than 84% of students were enrolled in a district with a strong policy that explicitly required the guidelines for school meals to meet the minimum federal school meal standards. However, only 10% of students were enrolled in a district with a strong policy that had specific evaluation requirements in order to assess the effectiveness of the policies.

Table 2. *Policies that address the nutrient quality of food and drink items at various charter school locations (N=14)*

<b>Does your school have any policies that address the nutrient quality of food and drink items.</b>	<b>Yes</b>	<b>No</b>	<b>NA<sup>a</sup></b>
Sold in school vending machines?	1	2	11
Sold in school stores?	2	0	12
Sold in classroom fundraising?	1	7	6
Offered to students as incentives or rewards?	3	11	0
Offered to students during school gatherings such as parties or assemblies?	5	9	0
Sold during school sporting events?	0	14	0
Available for faculty and staff during meetings?	0	14	0

<sup>a</sup>Indicates not applicable. For instance, if the question asked about policies for food and beverages sold in school vending machines, NA indicates there were no vending machines at the school.

### **School Meals Program**

Of the 14 schools surveyed, the range of students who qualified for free and reduced price lunch was 34% to 97%. On average, 78% of students qualified, compared to 51% across the state of Missouri (Brown, 2011). Only one of the 14 schools did not participate in the NSLP. The remaining 13 schools participated with varying degrees of *daily* participation. The range of reported daily participation was 35% to 95%. It was assumed that students who did not participate in the program either brought their lunch from home, purchased food from vending machines, school stores, or

snack bars, purchased food items a la carte, were able to leave school grounds for lunch or have food brought to them, or skipped lunch entirely. There was no significant correlation between the percent of students that qualify for free and reduced-price lunch and the percent of students participating in the free and reduced-price lunch program on a daily basis among the 14 schools in the study ( $r=.301$ ,  $p=.31$ ).

Ten of the 14 schools used an external food system management company to supply their lunches. Two schools used their own school system food service, while one school used a local food establishment. Only two schools reported commercial fast food vendors selling food as part of their lunch program; both schools identified the vendor as a pizza company.

### **Vending Machines**

Only three schools reported having vending machines in their schools, all of which had above average participation in free and reduced-price lunch programs ranging from 88-92%. One school had one vending machine, while the second had two vending machines, and the third had five vending machines accessible to students. No schools reported having vending machines accessible only to teachers. One school reported that any funds received from vending machine sales were controlled by school clubs; one school reported funds were controlled by school clubs and the athletic department; one school did not know who controlled the funds. Two schools reported that they did have a contract with a soft drink bottler. However, no schools reported receiving incentives (i.e. cash rewards) from the company.

### **School Stores and Snack Bars**

Only two schools reported having either a store or snack bar at their school, and each indicated that they have policies regarding the type of food that can be sold. One school indicated their store is operated by the school social worker and that the profits are controlled by the Dean of Culture and Student Support Services; the second school indicated their store is run by teachers and that the profits are controlled by the principal.

## **CONCLUSIONS AND APPLICATION**

This study provides a broad snapshot of the federally reimbursable meals and competitive foods sold at charter schools in Saint Louis. The results may prove useful to a variety of individuals invested in the school food environment such as administrators, teachers, food service directors and staff, parents, and local food service companies within the Saint Louis community.

### **Practices and Policies**

Given that all schools surveyed did not report policies for food and beverages sold or offered at various school locations, there is a clear need for monitoring and enforcement of school wellness policies. One tool that may aid Saint Louis charter schools in meeting the USDA guidelines for school wellness policies is the School Wellness Inventory developed by the Missouri Coordinated School Health Coalition. The purpose of the tool is to "develop a universal school wellness tool that can be used to develop, implement, evaluate, and continuously improve school wellness policies and related wellness activities." (Missouri Coordinated School Health Coalition, 2012, p.1). Components of the tool include the school health advisory committee, school wellness policy monitoring and evaluation, and family community and involvement. If utilized by the charter schools in Saint Louis, this tool may be a practical and effective way to improve the quality of and adherence to school wellness policies.

### **School Meals Programs and Competitive Foods**

Results of this study also revealed that as few as 35% of students are participating in the lunch programs at some schools. Possible explanations for low participation include a low percentage of students that qualify for free and reduced-price lunches, absenteeism, taste preference, picky eating habits, cost of the meal, perception of the healthfulness of the meals, length of lunch period, atmosphere of the lunchroom, or food allergies and sensitivities not accommodated by the school or food service management company. As schools face the challenge of increasing participation in their lunch programs, collaboration with a food service management company may become increasingly attractive, especially given the new guidelines established in the Healthy, Hunger-Free

Kids Act of 2010. These new standards represent the first major changes in school meals in 15 years and are aimed to provide adequate nutrition while curtailing intake of excess energy. As the USDA required schools to implement the new standards for the 2012-2013 school year, adjusting meals likely required increased attention and collaboration among school nutrition directors and staff, school administrators, parents, and students.

Lastly, this study revealed that most Saint Louis charter schools do not have vending machines, school stores, or snack bars in any significant number. If vending machines, school stores, or snack bars are available at school, they should be incorporated into a cohesive school food service plan to offer both healthy meals and snacks. Federal reimbursement for snacks is available through the NSLP, as well as reimbursement for breakfasts through the SBP. Schools may maximize their participation in federal nutrition programs in order to offer healthy meals and snacks to students before, during, and after the school day.

### **Future Research**

Weaknesses of this study included a small sample size (N=14), data collection by self-reporting, and a scope limited to the charter schools only in Saint Louis. Additional research is needed to thoroughly and accurately depict the school food environment of charter schools in Saint Louis. As this study provided a broad scope of information, more specific information is needed on subjects such as the types of policies being implemented, any barriers schools face while implementing their policies, barriers to participation in the National School Lunch Program, the success of the school lunch program in meeting the latest USDA guidelines, and the specific types and nutrient quality of competitive foods sold throughout the school.

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