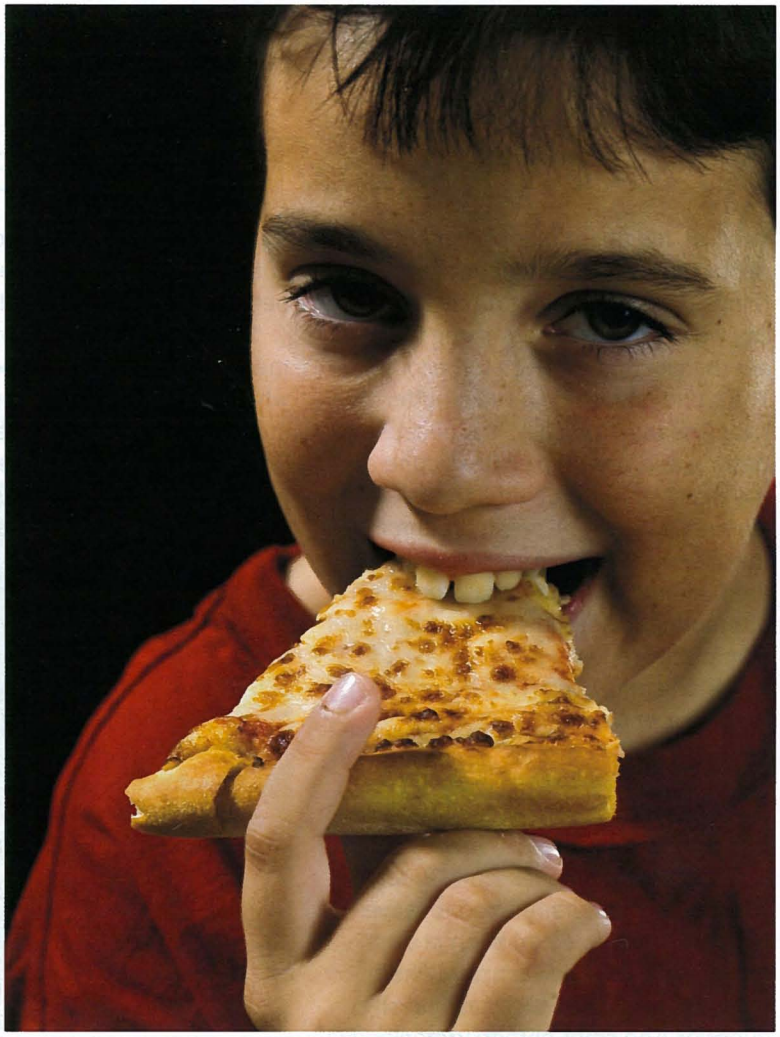
Are Students Piling on Pounds with Unhealthy Foods at School?



Study looks at food and beverage options available to students in school meals and through vending machines and school stores

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During the school year, many millions of meals are served to students at school. Some students rely on schools for the majority of their caloric intake (USDA, 2001). The task of provisioning America's youth with up to two meals a day, plus snacks (before, during and after the school day) is formidable and schools continually are being asked to do more to create an appealing, healthful eating experience for students.

The challenges are compounded by the abundant evidence that our nation is in the midst of a childhood obesity epidemic (Ogden, Flegal, Carroll, and Johnson, 2002; Slyper, 2004), with little indication of a slowing or reversal of this trend (Gordon-Larsen, Adair, Nelson, & Popkin, 2004). Recently, First Lady Michelle Obama launched a national initiative called "Let's Move" to combat obesity through four strategies: more nutrition information, increased physical activity, easier access to healthy foods and greater personal responsibility.

Public health officials and politicians have looked to our nation's schools as a disproportionate contributor to the widespread energy imbalance (excess caloric intake compared to calories burned off) that is fattening our young people. Body fatness is typically measured using Body Mass Index, or BMI (a fatness predictor based on a ratio of weight to height).

This article is the second in a series that presents information collected for the School Health Policies and Programs Study (SHPPS) 2006 in both public and private schools. The first, published in the April/May 2010 *Momentum* (Mooney, Ross, and Moloney, 2010), described the differences between public and private schools—Catholic and non-Catholic—in the maintenance of the physical school environment and the comprehensiveness of crisis preparedness plans. This article focuses on food and beverage options available to students as part of the school meal program or through other school-based venues, such as vending machines and school stores.

Based on National Study

SHPPS is a national study conducted by the U.S. Centers for Disease Control and Prevention (CDC) every six years to assess the eight components of a comprehensive school health program: health education, physical education and activity, health services, mental health and social services, nutrition services, healthy and safe school environment, faculty and staff health promotion, and family and community involvement. SHPPS gathers data at state, school district and school levels (Kyle, Brener, Kann, et al., 2007)

School-level data were collected through personal interviews with school administrators, school food service

Table 1: Percentage of Schools Offering Students at Least One Appealing Fruit, Non-Fried Vegetable and Low-Fat or Non-Fat Dairy Product Each Day for Lunch

	Public	All Private	Catholic	Other Private
At least one appealing fruit	98.8	85.3*	88.6*	80.9*
At least one appealing non-fried vegetable	96.5	86.5*	84.1*	89.7
At least one appealing low-fat or non-fat dairy product, including milk	99.0	94.4*	99.2	87.7*
At least one appealing fruit, non-fried vegetable, AND low-fat or non-fat dairy product EACH DAY	94.9	76.0*	79.5*	71.0*

* Indicates significant difference between public and private schools.

managers, and other staff identified by the principal. The school sample was designed to yield separate national estimates for all schools and for public and private schools separately. When we indicate that comparisons between two types of schools are statistically significant, we mean that when we compare the confidence intervals or margin of statistical error around estimates for the two types, there is no overlap between the confidence intervals. In several instances, when differences are particularly large, we note that these are of great practical significance.

In making comparisons between public and private schools, we do not mean to imply that public schools represent the standard against which other schools should be compared; however, it seems reasonable to look at where private schools may be falling short of or exceeding public schools, because public schools often have access to resources not made available to private schools. In many cases, there are no significant differences between public and private schools. However, findings show that schools, regardless of type, often need to do more. Finding that Catholic schools are on a par with public schools wouldn't mean that Catholic schools don't need to aim higher.

Participation in Federally-assisted Meals Programs

More than 101,000 public and non-profit private schools and residential care institutions participate in the School Breakfast Program (SBP) and/or the National School Lunch Program (NSLP). These federally assisted programs offer low-cost or free meals to qualified students by subsidizing the cost of their meals and reimbursing schools for the difference (US Department of Agriculture [USDA], 2009). Close to 100 percent of public and Catholic schools offer lunch to students, yet almost all public schools receive federal reimbursement for some of their students compared to only 58.6 percent of Catholic schools. However, compared to public schools, relatively few Catholic schools offer breakfast to students (86.2 percent and 15.1 percent, respectively). Of those schools that offer breakfast, 83.5 percent of public schools and about half of Catholic schools participate in SBP.

For schools to qualify for federal reimbursement, the government has, under the Richard B. Russell National School Lunch Act of 2009, stipulated minimal nutritional requirements for meals based on the weekly average of the nutrient content of school lunches. To meet these requirements and be reimbursed for school lunches, at least one appealing fruit option, non-fried vegetable option and low- or non-fat dairy product (including milk) must be made available to students each day.

Each day for lunch, private schools (Catholic 88.6 percent) and non-Catholic (80.9 percent) significantly are less likely than public schools (98.8 percent) to offer students at least one appealing fruit. Further, Catholic schools (84.1 percent) significantly are less likely than public schools (96.5 percent) to offer students at least one appealing non-fried vegetable each day for lunch. No significant differences were found between Catholic and public schools in offering at least one appealing low-fat or non-fat dairy product each day for lunch. (See Table 1.)

The importance of providing nutri-

Catholic Schools Eligible for Federal Nutrition Programs

These U.S. Department of Agriculture programs are available to Catholic school students: the national school lunch and breakfast programs, a special milk program and a summer food service program.

National School Lunch and Breakfast Programs:

- provide cash and commodity assistance to schools to provide free or reduced-price meals to students who qualify under the poverty guidelines; others purchase meals at cost
- reimburse schools for each meal served
- can be self-supporting from the revenues/subsidies received
- do not require schools to offer a hot meal program; food can be prepared at satellite sites as well as the school campus

Information about these programs and ways to apply are on the NCEA Web site at www.ncea.org/public/NutritionPrograms.asp#feds.

Table 2: Percentage of Schools Offering Students a Variety of Healthy Options Each Day for Lunch

	Public	All Private	Catholic	Other Private
Two or more different entrees or main courses	75.6	52.1*	48.7*	56.8*
Two or more different non-fried vegetables	71.2	41.7*	35.4*	50.2*
Two or more different fruits or types of 100% fruit juice	73.5	46.3*	44.4*	48.9*
Three or more different types of milk (for example, 1% chocolate milk or skim unflavored milk)	70.8	43.2*	49.6*	34.4*

* Indicates significant difference between public and private schools.

Table 3. Percentage of Schools Offering Select Items from Vending Machines or School Stores

	Public	All Private	Catholic	Other Private
Bread sticks, rolls, bagels, pita bread or other bread products	7.8	7.0	6.4	7.7
Low-fat cookies, crackers, cakes, pastries or other low-fat baked goods	22.9	18.5	11.0*	25.8
Salty snacks that are low in fat, such as pretzels, baked chips or other low-fat chips	27.1	22.3	15.3*	29.2
Bottled water	47.8	41.8	34.2	49.5
Sports drinks, such as Gatorade™	37.7	29.8	23.4*	36.0
100% fruit juice	33.2	31.7	23.5	39.8
Chocolate candy	21.6	20.0	13.4	26.6
Other kinds of candy	24.3	21.2	15.3	27.2

* Indicates significant difference between public and private schools.

ent-rich foods clearly is not lost on Catholic schools. While about 60 percent of Catholic schools are required—via their participation in the NSLP—to offer appealing fruit, vegetables and low- or non-fat dairy options for lunch, about 80 percent make all three available to students on a daily basis.

Providing students with a variety of healthy options encourages good eating habits, increases the likelihood that students will receive vital nutrients and ensures that school meals are commensurate with the 2005 Dietary Guidelines for Americans (Department of Health and Human Services [DHHS], 2005).

In terms of variety, private schools—both Catholic and non-Catholic—consistently fall short of public schools. Specifically, Catholic schools were significantly less likely to offer students choices between two or more different entrees or main courses, two or more different non-fried vegetables, two or more different fruits or types of 100 percent fruit juice or three or more different types of milk. (See Table 2.)

Similarly, only about half of Catholic schools compared to three quarters of public schools offer students five or more foods containing whole grains each week during breakfast or lunch. Whole grains provide valuable vitamins, minerals and anti-oxidants that help reduce risk factors for chronic diseases such as heart disease, diabetes and cancer. Because significantly fewer Catholic schools provide breakfast—which often consists of whole grains—they are at a great disadvantage in finding ways to meet recommendations for whole grain offerings.

Foods and Beverages Sold Outside the School Nutrition Program

Current USDA regulations place limits on the sale of foods of minimal nutritional value (e.g., soft drinks and chewing gum) in food service areas during meal times, but states and school districts are allowed to place additional limits on the availability of these foods (Fox, Crepinsek, Connor, Battaglia & McKinney, 2001). Documentation of the low-nutrient quality of foods available at schools outside the regular school meals program, collectively referred to as "competitive foods," is widespread. Many foods and beverages do not meet the criteria for the designation of "foods of minimal nutritional value" (USDA, 2003) and are low in nutrients or high in fat or sodium (e.g., potato chips). Such foods are exempt from USDA regulations.

Vending machines, school stores, canteens and snack bars are the primary outlets for competitive foods. SHPPS 2006 revealed that schools of all levels (elementary, middle and high) reported that soft drinks, sport drinks and fruit drinks (collectively referred to as sugar-sweetened beverages or SSBs) and other foods are available to students via vending machines or a school store, with increasing availability as a student gets older (O'Toole, Anderson, Miller, and Guthrie, 2007).

There is no significant difference between public and private schools with respect to the proportion that have one or more vending machines from which

students can purchase food or beverages (47.2 percent and 40.4 percent, respectively). However, significantly fewer Catholic schools (16.9 percent) than public schools (29.4 percent) have a school store, canteen or snack bar from which students can purchase food or beverages, which in turn limits some of the availability of these lower nutritional quality snacks.

As for the quality of foods that are available through school vending machines, store, canteens or snack bars, there were slight differences between public and private schools. No differences emerged in the proportion of public and Catholic schools that offered healthful snacks, such as breadsticks, rolls, bagels or pita bread, low-fat or non-fat yogurt or 100 percent vegetable juice. However, these percentages were relatively low compared to the proportion of public and Catholic schools that offered snacks high in fat or have added sugars and/or sodium (e.g. potato chips, candy). Similar proportions of public and Catholic schools offered these types of snacks.

Of 19 foods, Catholic schools are significantly less likely than public schools to offer three healthful options: 1) low-fat cookies, crackers, cakes, pastries or other low-fat baked goods; 2) salty snacks that are low in fat, such as pretzels, baked chips or other low-fat chips; 3) and sports drinks, such as Gatorade™, as an alternative to soda. It is noteworthy that nearly half of all public schools made bottled water available to students for purchase, but just more than a third of Catholic schools did so. This does not include non-bottled water (e.g., water fountains, bottled water brought from home) that may be available to students throughout the school day. (See Table 3.)

Foods Prepared Onsite

No significant differences were found between public (81.4 percent) and private (74.1 percent) schools in the proportion that prepared food onsite, that is, meals cooked at the school rather than simply being reheated and served. Differences between public and Catholic schools in offering selections from fast food companies such as Pizza Hut or Taco Bell were not significant, but it is noteworthy that 12.4 percent of public schools and 23.8 percent of Catholic schools offered such foods. Catholic schools may be trying to provide students with flexibility, variety and appealing choices; however, they may not be acting in students' best interests because fast foods tend to be high in fat and sodium and low in many vitamins and minerals.

The manner in which food is prepared can have a significant impact on its nutritional content. SHHPS looked at the proportion of schools utilizing healthy substitution, reduction, meat preparation and vegetable preparation techniques. Overall, Catholic schools do not differ significantly from public schools with respect to the use of healthy food preparation methods. Of 22 recommended techniques, Catholic schools are significantly less likely than public schools to utilize just two: the use of non-stick spray or pan liners instead of grease or oil and the use of skim, low-fat, soy or nonfat dry milk instead of whole milk.

Students and Staff with Special Dietary Needs

In the earlier *Momentum* article (Mooney et al, 2010), we commented that Catholic schools are significantly less likely than public schools to make provisions in their crisis preparedness plans for students and staff with special needs. A similar finding held true for practices within the school nutrition services program.

Approximately 4 percent of all children under the age of 18 have a food or digestive allergy and the prevalence of food allergies among children continues to rise (Branum and Lukacs, 2008). The School Nutrition Foundation and USDA (Sneed, May 27 2009) recommend that schools take a proactive approach to feeding students with food allergies by establishing a written policy. The majority of public schools (83.4 percent) have a written plan for feeding students with severe food allergies, but Catholic schools (66.8 percent) are significantly

For More Information

For more information on SHPS 2000, including information on its conduct, data sets and documentation for 2006 and previous cycles, go to CDC's Web site at www.dcd.gov/HealthyYouth/shpps.

less likely to have such a plan. There were no significant differences between public and Catholic schools in modifications made in foods offered to students with food allergies.

Students with chronic health conditions such as diabetes also have specific dietary needs. Private schools (Catholic 63.0 percent) and non-Catholic 46.2 percent)—are significantly less likely than public schools (81.3 percent) to make changes in the foods offered to students with chronic health conditions.

Discussion and Summary

Many Catholic schools do not receive funding from the federal government for participating in school meals programs; however, in several important areas, they perform as well or nearly as well as public schools that do. On a daily basis, the vast majority of Catholic schools offer appealing fruit, vegetable and dairy options for students. Public schools tend to offer more whole grain foods to their students than Catholic schools, but this may be explained by the smaller percentage of Catholic schools that offer breakfast to students.

Competitive foods sold outside the school nutrition services programs are often of minimum nutritional value, and both public and Catholic schools have room for improvement in the types of foods and beverages that are available to students from vending machines, school stores, canteen and snack bars.

About a quarter of all Catholic schools offer name-brand fast foods like Pizza Hut and Taco Bell. The vast majority of Catholic schools prepare at school the meals served to their students and therefore have greater control over the food served and meal preparation methods; however, they are less likely than public schools to have a written policy on serving students with food allergies and to offer alternative food options to students with chronic health conditions.

The contribution of high-fat, high-sugar and high-calorie snacks and sugar sweetened beverages to the obesity epidemic continues to be of great concern. The public health community persists in exploring this topic as its impact will inform, and likely drive, public policy, including the availability of food options in schools. SHPPS was previously conducted in 1994 and 2000 and will again be conducted in the spring of 2012, when a nationally representative sample of schools again will be invited to participate. (In 2006, 88 percent of Catholic schools that were invited to participate did so.) The results presented here can be compared to the 2012 results to determine what kind of progress has been made in improving school nutrition services programs.

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