

Vending and Other Sources of Competitive Foods

One of Eight Brief Reports

YEAR 5 EVALUATION OF ARKANSAS ACT 1220 OF 2003 TO COMBAT CHILDHOOD OBESITY

INTRODUCTION

Obesity is recognized as one of the most pressing health threats facing families and communities in Arkansas and in the nation overall. Arkansas Act 1220 of 2003, which mandated statewide policy changes aimed at preventing childhood obesity, included restricting student access to vending machines, stores and snack bars in public schools. The Act also called for school-based policies that would limit the sale of “junk foods” and offer more healthy foods and beverages in vending machines. This brief report presents key findings from the Year 5 evaluation of policies and practices related to vending and other sources of competitive foods available in Arkansas public schools.

As in previous years, our research team at the Fay W. Boozman College of Public Health at the University of Arkansas for Medical Sciences, conducted the evaluation with support from the Robert Wood Johnson Foundation. More details from the Year 5 evaluation and complete evaluation reports for Years 1-4 are available at: www.uams.edu/coph/reports/#Obesity.

KEY FINDINGS: VENDING AND OTHER SOURCES OF COMPETITIVE FOODS

Student Access to Vending Machines on Campus

Since the passage of Act 1220, schools have significantly reduced student access to food and beverage vending machines.

- Over the past three years, the percentage of schools with vending machines on campus has remained steady at 79 to 80 percent, a decrease from 85 percent in Year 1 of the evaluation.
- In Year 5, vending machines were significantly less likely to be in cafeterias, gymnasiums and snack bars or school stores than they were in Year 1.
- In compliance with state regulations, schools have essentially eliminated students’ access to vending machines prior to and during lunch periods. In Year 5, only 17 percent of schools allowed access during prohibited time periods—and these schools were likely honoring vending contract provisions.



Snack Bars, Snack Carts and School Stores on Campus

When snack bars or carts were present in schools, they were most often located in cafeterias and open for purchases during the lunch periods.

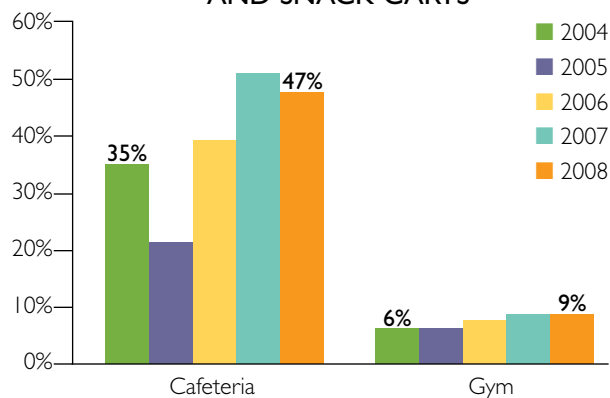
- The percentage of schools with a snack bar or cart on campus remained constant at 8 percent in Years 4 and 5.
- In Year 5, of the schools with a snack bar or cart, 47 percent reported having one in the cafeteria, down from 51 percent in Year 4.

In Year 5, schools with stores on campus were significantly less likely to sell foods and beverages to students than they were in Year 1.

- School stores that sell foods and beverages to students were less likely to be open during lunch in Year 5 (25 percent) than they were in Year 4 (56 percent). This substantial drop may reflect efforts by schools to restrict student access to competitive foods until 30 minutes after the last lunch period, a mandate that went into effect on July 1, 2005.

- Schools were *more* likely to have stores open for student purchases before school, after lunch and after school and *less* likely to have stores open immediately before lunch, during lunch and during breaks in Year 5 than they were in Year 1.

LOCATION OF SCHOOL SNACK BARS AND SNACK CARTS



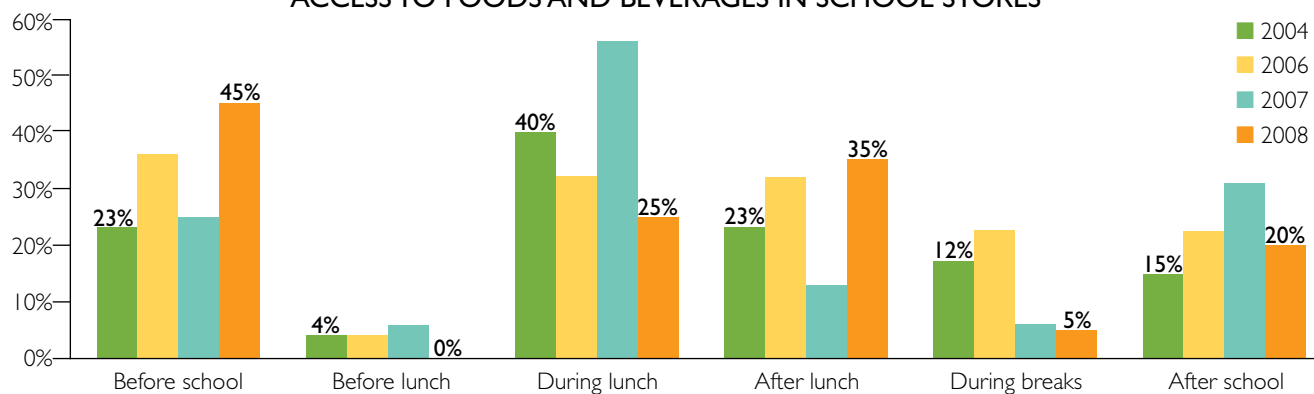
There were no statistically significant changes in data from Year 1 to Year 5.

SUMMARY OF VENDING MACHINE ACCESSIBILITY

	2004	2005	2006	2007	2008
Vending machine locations					
Beverage machines					
Cafeteria**	13%	11%	10%	9%	8%
Gymnasium****	30%	26%	24%	23%	18%
Snack bar/school store***	6%	7%	4%	2%	3%
Staff/teachers' lounge	71%	78%	78%	78%	80%
Hallway	NA	20%	18%	19%	18%
Snack food machines					
Cafeteria*	6%	5%	5%	4%	2%
Gymnasium***	11%	9%	8%	6%	4%
Snack bar/school store**	14%	10%	6%	4%	6%
Staff/teachers' lounge	70%	66%	72%	80%	79%
Hallway	NA	16%	13%	10%	12%
Times of student access					
Beverage machines					
Before school****	28%	30%	20%	17%	18%
Before lunch*	10%	10%	9%	7%	6%
During lunch****	43%	40%	20%	19%	17%
After lunch****	16%	18%	27%	24%	25%
During breaks****	13%	13%	8%	4%	4%
After school****	39%	37%	31%	31%	29%
Snack food machines					
Before school**	29%	33%	21%	14%	18%
Before lunch**	11%	11%	8%	5%	4%
During lunch****	45%	45%	20%	19%	16%
After lunch*	16%	19%	25%	22%	22%
During breaks****	15%	15%	8%	5%	5%
After school**	38%	39%	30%	28%	28%

*p ≤ .05; **p ≤ .01; ***p ≤ .001; ****p ≤ .0001

ACCESS TO FOODS AND BEVERAGES IN SCHOOL STORES



There were no statistically significant changes in data from Year 1 to Year 5.
No Year 2 data collected.

Vending Machine Contents

Overall, vending machines offered *more* healthy food and beverage options and *fewer* high-fat, high-sugar items in Year 5 than in Year 1.

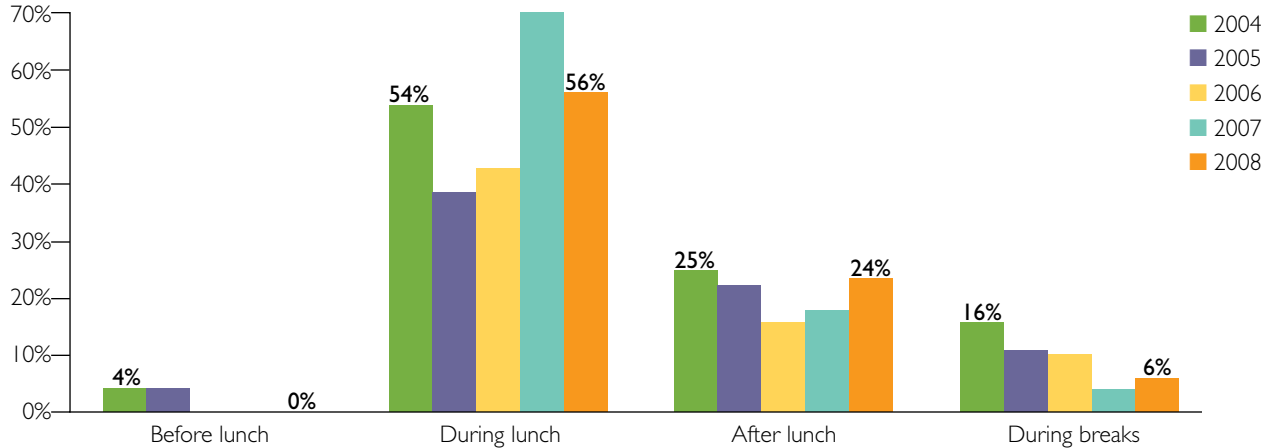
- The percentage of healthier vending options, as reported by principals, steadily increased from 18 percent in Year 1 to 30 percent in Year 5.
 - The availability of many less healthy items remained essentially the same between Years 4 and 5,
- yet principals reported a significant decrease in the availability of sodas, from 45 percent in Year 4 to 39 percent in Year 5. Principals also reported a significant decrease in the availability of fruit drinks over the past year, from 37 percent to 32 percent.
- There were few changes in the availability of healthier vending options in Year 5, with the exception of low-fat, low-sugar cookies and crackers, both of which showed slight increases.

AVAILABILITY OF FOOD TYPES IN SCHOOL VENDING MACHINES

	2004	2005	2006	2007	2008
Less healthy food and beverage options					
(foods that provide calories primarily through fats or sugars and contain few nutrients)					
Chocolate candy****	42%	47%	28%	22%	26%
Other candy****	45%	49%	29%	23%	24%
Cookies****	47%	51%	36%	31%	32%
Pastries***	32%	40%	23%	18%	18%
Chips****	32%	40%	23%	18%	28%
Ice cream****	15%	15%	12%	4%	4%
Sodas****	49%	48%	40%	45%	39%
Fruit drinks****	46%	50%	41%	37%	32%
Healthier food and beverage options					
Low-fat, low-sugar cookies***	11%	19%	22%	14%	19%
Low-fat crackers**	12%	17%	21%	14%	18%
Low-fat, low-sugar pastries	8%	10%	14%	7%	7%
Low-fat chips*	21%	40%	33%	24%	25%
100% fruit juices	32%	36%	38%	32%	29%
Vegetable juices	9%	10%	11%	7%	9%
Water	49%	53%	49%	51%	49%
Principal estimate of percentage of vending items in healthier category (from list provided)	18%	18%	22%	26%	30%

*p ≤ .05; **p ≤ .01; ***p ≤ .001; ****p ≤ .0001

STUDENT ACCESS TIME FOR SCHOOL SNACK BARS OR SNACK CARTS



There were no statistically significant changes in data from Year 1 to Year 5.
No Year 3 or 4 data available for "Before Lunch"

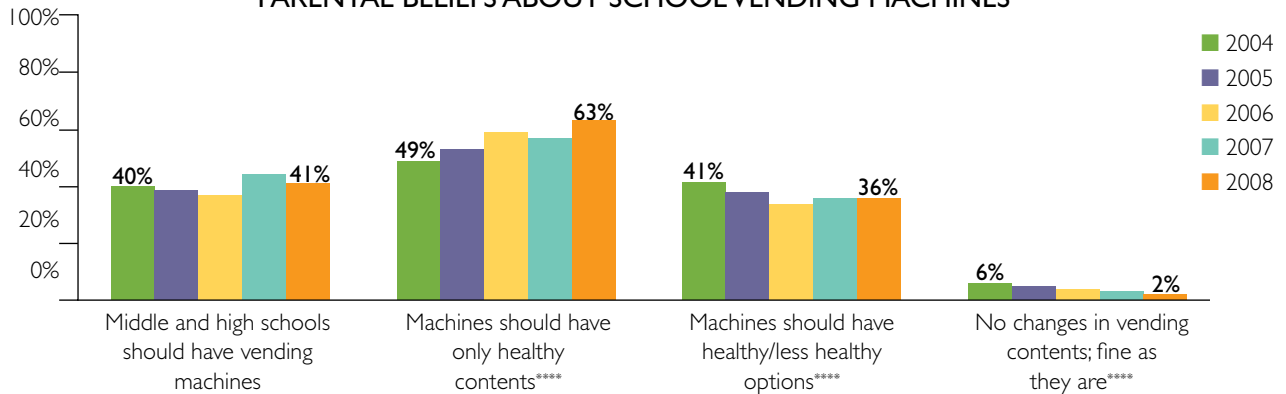
Parent Opinions Concerning Vending Machines in Schools

Parents continued to endorse restrictions and healthy changes for vending machines in middle and high schools.

- Forty-one percent of parents endorsed the belief that middle and high schools should not have vending machines—the percentage has remained stable since Year 1.

- The percentage of parents who believe that vending machines should offer only healthy foods and beverages increased, from 49 percent in Year 1 to 63 percent in Year 5.
- Only 2 percent of parents believed that the current content of vending machines is acceptable.

PARENTAL BELIEFS ABOUT SCHOOL VENDING MACHINES



*p ≤ .05; **p ≤ .01; ***p ≤ .001; ****p ≤ .0001