

# School Food Services and Childhood Obesity: Is there a link?

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## ABSTRACT

*Childhood overweight and obesity have increased three-fold since 1980, and there is minimal evidence of any leveling off. Research has found that many school food programs are not sufficiently providing adequate nutrients and providing far too many calories and fat. Competitive foods are widely available in many schools which may possibly contribute to increased weight and body mass index (BMI) in students. This has put school food programs under scrutiny as a contributor to the childhood obesity crisis being faced. Schools can promote healthier eating by improving school meals, but most are forced to sell competitive foods to support their programs. Several programs have proven that children tend to gravitate towards healthier option when given the opportunity. Leadership in the area of school nutrition may improve the quality of nutritional meals available in schools. This paper proposes the possible link between school food service programs and the upward trend in childhood overweight and obesity.*

*Florida Public Health Review, 2010; 7, 9-12.*

## Introduction

It is estimated that children consume up to 50% of their daily food intake while at school (Story, Kaphingst, & French, 2006). The National School Lunch Program (NSLP) serves 30 million students per day, accounting for 60% of the total student population in the United States (Shanzenbach, 2009). With a population this large and the potential for a positive impact affecting many students, increased attention has been focused on improving the quality of school nutrition programs as the rise in childhood overweight and obesity has escalated. Due to the financial pressures school food service programs face, many are forced to serve competitive foods that are higher in fat, including saturated fat, and calories, but extremely profitable (Shanzenbach, 2009). Several programs have been implemented to ensure healthier foods are available to students due to increased awareness and recognition that overweight and obesity has lasting, detrimental health consequences. This paper will apply leadership principles from the perspectives of Kouzes and Posner (2007) and Kotter (1996) calling for leadership to ensure the health of children today by increasing the funding to school nutrition programs.

## Significance of the Problem

In the 2005-06 National Health and Nutrition Examination Survey (NHANES) data, 16% of school-age children were classified as obese (Gleason & Dodd, 2009). Obesity in children is defined as a "body mass index (BMI) greater than the 95<sup>th</sup> percentile of a fixed distribution for child's age and weight" (Shanzenbach, 2009; Petersen & Fox,

2007). It has been hypothesized that the generation of people 10 to 30 years old today will not outlive their parents (Magryta, 2009). Obesity in children can lead to problems such as diabetes, cardiovascular disease and increases the likelihood of obesity in adulthood (Gleason & Dodd, 2009; Peterson & Fox, 2007). Because children spend a substantial part of their day at school, consuming a large portion of their calories while there, many studies and programs have been analyzed to determine the effects school meals can have on children's weight and BMI.

Several different categories of foods exist within schools and differ greatly on how they are regulated. Story et al. (2006) indicated that competitive (a la carte) foods are not subject to all federal nutrition food standards. Unfortunately, competitive foods tend to replace fruit and vegetables and are far higher in fat and saturated fat. Frequently, competitive foods refer to soft drinks, fruit drinks (not 100% juice), salty snacks, and baked goods. Research also has indicated that the more variety of competitive foods available, the less intake of fruits and vegetables. Sallis and Glanz (2006) found that fruit and vegetable availability in school lunches was positively linked with increased consumption. "Foods of minimal nutritional value" provide less than 5% of the recommended daily allowance (RDA) of key nutrients (Story et al., 2006).

A second category of competitive food allowed to be sold in school cafeterias at meal times and elsewhere in schools are candy bars, potato chips, cookies, and doughnuts (Story et al., 2006). These particular categories of foods are not subject to regulation by the United States Department of

Agriculture (USDA) for “foods of minimal nutritional value.” However, this definition is outdated as it was established over 30 years ago. Portion sizes have become exponentially larger in recent decades with the average soft drink size available in schools today measuring 20 ounces. One study found that almost all (94%) of high schools sell soft drinks with the average of 5.3 machines per school (Story et al., 2006).

Schools are forced to sell nutritionally poor food items due to budget pressures (Story et al., 2006). In states where a la carte items are prohibited, there is higher school meal participation. However, more frequent school meal participation could prove to increase a student’s weight. Schanzenbach (2009) found that students who ate school lunch consumed more calories than those students who brought their lunch from home. At the end of the study, those who consistently ate school lunch gained weight and increased their likelihood of being classified as overweight or obese. On the other hand, Gleason and Dodd (2009) concluded that there was no evidence that either the school breakfast or lunch program contributed to the rising rates of childhood obesity. They even noted that students who regularly consumed school breakfast were consistently associated with lower BMI, further emphasizing the importance of eating breakfast as a means to control calories consumed during the day.

### **Factors Relating to and Affecting the Problem**

The National School Lunch Program was established by the USDA to provide a nutritious lunch to students (Story et al., 2006). Specific guidelines for these programs require school lunch to provide one-third of the recommended dietary allowance (RDA) for key nutrients including protein, vitamins A and C, and iron. The School Breakfast Programs are required to provide one-fourth of RDAs. When these programs were further examined for nutritional content, the RDA for calories was exceeded in elementary schools and was found to be lower in secondary schools. Total fat and saturated fat content should comprise no more than 30% of calories from fat and less than 10% of calories from saturated fat. However, most school nutrition programs are not complying with the  $\leq 30\%$  of calories from fat recommendation. In fact, many studies analyzing nutritional standards of school meal programs found that there is a general lack of compliance to these standards (Jaime & Lock, 2009).

Much of the controversy surrounding the availability of competitive foods in schools is financial pressure (Story et al., 2006). Subsequently, more school districts resort to profitable soft drink contracts and allow for an influx of food and

beverage advertisements to students. Budgeting makes it challenging to provide nutritious meals because most school food service programs are financially self-sufficient. The federal reimbursements for each school meal and the revenues from food sales are the only two ways school food service programs can profit. Recently, USDA reimbursements have declined forcing school food service programs to generate more revenue from competitive food sales. Thus, schools have offset lost profits by increasing prices of meals, a la carte items, and catering sales. A 2003 California High School Fast Food Survey showed it to be common to find several fast food vendors in high school cafeterias. These vendors are also profitable for schools making it challenging for them to restrict sales.

Soft drink consumption in youth has long been vilified as a culprit for childhood obesity (Story et al., 2006). In schools, children are bombarded by advertising from soft drink companies ranging from hallway banners, posters to book covers, all of which challenge the messages they are receiving in school about healthy and nutritious eating. These soda companies are also given unbiased opportunity for students to become loyal consumers of their brand.

Cafeterias are not the only source of the problem. The National School Health Policies and Programs Study (SHPPS) found that in 2000, 43% of elementary schools, 74% of middle schools, and 98% of high schools had vending machines, snacks bars, and other food outlets outside the cafeteria (Story et al., 2006). Only 4% of the a la carte menu consisted of fruits and vegetables. In addition, only one-third of all vending or a la carte items met the recommended “5.5 grams of fat per serving or less.” In addition to the poor nutrient quality of the foods, there was an average of 80 foods available for sale.

Several school food service programs have implemented policies banning the sale of soft drinks and snacks containing minimal nutrient value during the school day (Jaime & Lock, 2009). One particular study examining these policies found that student consumption of soft drinks decreased by 55% and snack intake by 52%. Whereas some school food and nutrition policies have seen dietary improvements, not all policies implemented to regulate foods available within schools have been as successful. One study found that the lack in access to competitive foods caused a large increase in ice cream sales within schools. More research evaluating the impact of childhood overweight and obesity is still needed to determine if these policies were effective.

### **Implications for Leadership**

On a policy level, Story et al. (2006) suggest the need for federal rules governing the availability,

content, and sale of competitive foods in schools. Story et al. (2006) also indicates that Congress should give more power to the Secretary of Agriculture to regulate the competitive foods sold within the school setting. One of John P. Kotter's books, *Leading Change* (1996), proposes an eight-step change process "to describe the enormity of the task facing leaders who try to bring about fundamental, radical change in an organization." This theory can be applied to the leadership needed for improving school lunches so as to reduce overweight and obesity in school-aged children.

In August 2005, the American Beverage Association made a landmark decision for voluntary restriction of elementary and middle school sales of soft drinks and for exclusive sales of 100% fruit juices and bottled water (Story et al., 2006). This decision exemplifies Kotter's idea of "establishing a sense of urgency." Whereas some experts may argue that the decision made should have been strictly prohibitive of soft drinks, it shows the sense of urgency that soft drink companies realize their products may be contributing force to childhood obesity. The availability of 100% fruit juices and bottled water allows for lower caloric options.

A 2003 United States General Accounting Office report urged Congress "to improve nutrition and encourage healthy eating within schools" (Johnston, Denniston, Morgan, & Bordeau, 2009). Some of the suggestions included packaging foods in a manner similar to fast-food and branding items using logos. A school-based intervention was needed to make this possible. There needed to be major overhaul in school food service and the school food environment. Promotional activities were then needed to introduce the changes. In addition, development of educational and behavioral curriculum would to engage the students and encourage parental involvement. The *Steps to Healthier New York* along with the New York State School Nutrition Association developed a program exemplifying many of Kotter's leadership processes of change and proved to be successful. Parents of school-aged children were urging school policymakers in several New York counties to change school meals. A school lunch program called *Rock on Café* was established first as a breakfast program and was initially found to increase breakfast consumption by 15% (Johnston et al., 2009). Social marketing techniques were utilized to increase momentum and utility in schools. Kickoff events and pep rallies were designed to implement the guidelines of consuming five fruits and vegetables per day. Competitive foods also required stricter standards to be sold within school cafeterias participating in the program. Registered Dieticians (RDs) were hired to be a significant part of the "powerful guiding

coalition" to make school food choices both nutritious and appealing to students. Overall, the vision of the *Rock on Café* program was to "improve the quality of food services for all children in the region." To "communicate the vision" to key stakeholders, various presentations were given to area school superintendents to gain both administrative and financial support. Bidding for food items on a regional basis increased buying power for fruits and vegetables of a higher fiber content and more appealing taste. Food service directors (FSDs) were also charged with the responsibility of directly supporting the program vision through analyzing nutritional content of food items through the use of an electronic apparatus. Regional planning teams created school menus six weeks in advance. Within three years, parents' perceptions of school lunch nutrition improved significantly from 6.7% to 45.1%.

In 2005 Karen Johnson, the President of the School Nutrition Association (SNA) testified on the federal child nutrition programs (Sallis & Glanz 2005) calling for three major changes which included: budget reconciliation; elimination of reduced price meals; and increased funding for nutrition programs. Johnson and the leadership of the SNA stated that "our children must remain a national priority" and that child nutrition programs should be exempt from "any budget reconciliation requirement that may be exacted." Part of the recommendation included a "50 cents per child per year to implement these programs." Kotter said that leaders must be "motivating and inspiring" and it is evident that the leadership behind SNA demonstrated these qualities (Kotter, 1996). Additionally, Kotter said that leaders must "energize people to overcome major political, bureaucratic, and resource barriers to change the by satisfying basic, but often unfulfilled needs." In many cases, a meal provided at school may be the only nutritious meal some children receive in a given day. Despite the lack of resources available in school food service programs, leaders determined to change the culture of school meals must look beyond the initial higher costs of purchasing healthier foods and realize the future benefit for America's youth.

Applying additional steps from Kotter's major change process could have included adapting the *Rock on Cafe* to other geographical areas, constituencies and states. Additionally, FSDs could organize efforts with nearby schools and school districts to "further consolidate improvements and produce still more change."

James M. Kouzes and Barry Z. Posner proposed that the first step in leadership is to "challenge the process" (Kouzes & Posner, 2007). Research is clear that school meal programs do not sufficiently provide adequate recommended dietary allowances for key

nutrients. Competitive (a la carte) foods are low in nutrients, high in fat, sugar and calories. However, schools continue to serve these foods because they are practically forced to sell them based on financial pressures. The *Steps to a Healthier New York* “searched for opportunities” with regards to changing school nutrition and produced the *Rock on Café*. Although it was experimental and involved some risks, it proved to be successful. All of the key stakeholders responsible for this program, whether school administrators, parents, or students, were “inspired” and “shared a vision” to “improve the quality of food services for all children in the region” (Johnston et al., 2009).

With childhood overweight and obesity rates reaching astronomical highs, understanding the future health implications of poor nutrition during childhood and adolescence is necessary. To “envision a future” where children can purchase healthy, nutritious food during the school day requires the help of many different professionals. The help of school health officials, registered dietitians, community leaders, politicians, and area business leaders and organizations must be enlisted to be part of this change. Collaborating, forming coalitions, and “enabling others to act” will allow these changes to happen (Kotter, 1996). *Steps to a Healthier New York* modeled the way by introducing a school based intervention over a three-year period and set the example for future programs aimed at improving school meals. More programs like *Steps to a Healthier New York* need to be implemented in schools to reverse the trend in childhood obesity.

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