A QUALITATIVE STUDY: SCHOOL NUTRITION POLICIES AND THE PERSPECTIVE OF SCHOOL FOOD SERVICE DIRECTORS

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A Thesis

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ABSTRACT

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**Background.** Students spend eight hours per day, ten months out of the year in school, thus schools have a large impact on student’s dietary habits. Policy plays an integral role in Coordinated School Health Programs, which are created to help improve the overall health of children. Such programs combine health education, health promotion, disease prevention, and access to health and social services.

**Methods.** Food service directors (FSDs) from twenty-one schools in Texas that participated in a principal study were contacted by telephone to participate in a semi-structured interview regarding their statewide school nutrition policy. The interview guide was developed by a research team and then pilot tested. Questions focused on the FSD’s opinion of the policy, issues related to implementation, and feedback the FSD heard from administrators, teachers, students, and parents. Telephone calls were audio recorded with the consent from the interviewee. Interviews were transcribed verbatim, and then analyzed using qualitative methods. Themes, defined as concepts mentioned in more than one of the food service director’s interviews, were identified.

**Results.** Ten FSDs agreed to participate in the study. Most FSDs had at least some college experience with the most common degree being a bachelor’s degree, but none of the FSDs were registered dietitians. The most common themes included issues with serving sizes of French fries or content changes of vending machine items, approval of the policy since the goal is good health for students, lack of communication between FSDs and those who developed the policy, and that the policy did not have a negative impact on the schools overall. Seven FSDs noted little
or no financial impact on their school related to the implementation of the policy but the cost of new equipment was noted by three FSD.

Conclusions. Now that the federal government requires schools to develop a nutrition policy, the major recommendation for other states is to include persons from several different disciplines in policy development. FSDs supported the policy, but stressed how important good communication is when implementing a statewide policy.
This thesis is dedicated to my fiancé Jeff and my family for their continuous love and support.

Thank you all!
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CHAPTER I. INTRODUCTION

Establishing healthy eating habits at a young age is imperative for proper development, and the formation of good eating behaviors that continue into adulthood (1, 2). Children’s eating behaviors are influenced by their parents, social situations, and environments such as school. Almost all children in the United States are enrolled in school and food provided in schools, whether it is school lunch or snacks, plays a major role in the dietary consumption of children (3). In 2004, the state of Texas implemented a nutrition policy that includes regulations on competitive foods, fund raisers in school, fried foods during lunch, fat grams per meal, and much more (Appendix A). The Texas Department of Agriculture (2004) implemented the school nutrition policy “to promote a healthier environment in schools” (4). Not only is this policy important to the schools and children they are serving, but it is also critical to the future of children’s health and well-being because the new Texas policy is a model and example for other schools in the United States.

Statement of the Problem

The Child Nutrition and WIC Reauthorization Act of 2004 states that all schools must implement a wellness policy by the first school year following June 30, 2006 (5). The Reauthorization Act was set to try to increase physical activity and decrease the occurrence of overweight and obese children (5). The Act also addresses milk consumption in schools, continues the expansion of the Fruit and Vegetable Pilot Program, ensures food safety by improving safety standards, and strengthens the relationships between school, local farms, school gardens and child nutrition programs (5).
The Child Nutrition and WIC Reauthorization Act will also enhance the School Lunch Program that is already in place. With the Act, parents can now fill out one application for free or reduced lunches for all of their children, instead of separate applications for each child. It also makes the filing and certification process easier on school officials when they are evaluating school lunch applications.

Lastly, the Act increases the enrollment of children participating in the School Lunch Program by automatically accepting children whose parent(s) are receiving food stamps (5). Besides USDA regulations, there are few states that have any experience with wellness and/or nutrition policies, so learning from the Texas school nutrition policy could be a building block for other school districts in the United States. Since children and adolescents spend eight hours per day and about ten months out of the year in school, schools have a large impact on children’s dietary habits (3). If schools institute policies they can better regulate what foods are available to students (2).

Significance of the Problem

Finding out more about how school nutrition policies affect schools, students, teachers, and food service directors is a critical part of helping to decrease the obesity rates among children (3). In order for policies to be successful, they must be supported not only by the government, but also by the local school district and community (2). If the extensive school nutrition policy that Texas implemented has had a positive effect on students, teachers, and food service directors, and does not create a negative backlash, then this may be a bridge to starting improved nationwide school nutrition policies.

In the past 20 years, unhealthy eating habits and decreasing physical activity have caused the number of overweight children and adolescents to increase by 50% (6). Not
only does physical inactivity and overweight affect children while they are young, but it also has many effects on their bodies and later in life. Children become accustomed to certain eating patterns and exercise routines early in life. If children are physically inactive with poor nutrition behaviors, they are prone to diseases such as diabetes, coronary heart disease, cancer, and injuries (6). “For the first time in the world, there are just as many overfed people (one billion) as hungry ones” (7).

Children ages 11-15 on average are only scoring 63 points out of a possible 100 in the Healthy Eating Index, which falls in the category of “needs improvement” (8). The score from the Health Eating Index indicates that children are only eating 50% of the daily recommendation for fruit and vegetables. National data from the Continuing Survey of Food Intake by Individuals (CSFII) is used to determine averages on the Healthy Eating Index (HEI). The HEI is a component used to assess quality of diets by age group and is composed of ten categories, each worth ten points. One of the categories is food groups, and the score for this category is based on recommended servings for age and sex. The averages used from CSFII are divided by the number of recommended servings to get an HEI score (zero through ten). It is important for both schools and communities to share responsibility for providing children access to high quality foods and positive nutrition experiences (2). This could potentially reduce the climbing rates of obesity among children.

Objectives

The objective of this study is to gain information about experiences with the Texas Public School Nutrition Policy from the perspective of school food service directors. The in-depth interview format will provide greater insights into the positive
and negative effects of the policy. The experiences of the food service directors in Texas can help others who will be developing school nutrition policies in their states.

**Definition of Terms**

**Foods of Minimal Nutritional Value:** Refers to the four categories of foods that are restricted by the USDA (soda water, water ices, chewing gum and some candies).

**Essential Nutrients:** Nutrients a person must obtain from food because the body cannot make them for itself in sufficient quantity to meet physiological needs.

**Empty Calorie:** Denotes foods that contribute energy but lack protein, vitamins, and minerals.

**Competitive foods:** Foods and beverages sold or made available to students that compete with the school’s operation of the National School Lunch Program, School Breakfast program and/or after school program.

**A la carte:** Individually priced food items provided by the school food service department. These items may or may not be part of the meal program.

**Nutrient Density:** A measure of the nutrients a food provides relative to the energy it provides. The more nutrients and the fewer kilocalories, the higher the nutrient density.

**Subjective Norm:** A person’s perception of the social pressures put on him/her to perform or not perform a specific behavior.

**Behavioral Beliefs:** Perceived relationships between the behavior in question and a consequence of the behavior.

**Normative Beliefs:** Perception of what important others think an individual should do.
CHAPTER II. REVIEW OF LITERATURE

Coordinated School Health Programs

Policy plays an integral role in Coordinated School Health Programs (CSHP). With changes in society, dietary goals and priorities for nutrition research change as well (7). A CSHP includes health education, health promotion, disease prevention, and access to health and social services at a school site. CSHPs are recommended by the Center for Disease Control and Prevention (6), National Association of State Boards of Education (NASBE), and National School Boards Association (NSBA) (9). Schools are known for setting public health prevention policies that may potentially decrease the rate of overweight and obese children (10). A handful of schools have limited policies that state competitive foods may not be sold during school hours, but do not ban the foods and beverages all together like the Texas policy does. There are nineteen different existing school policies for nutrition and school lunches (besides USDA regulations), which vary by state, however, there is little consistency in the policies. Of those nineteen policies, only three (California, Texas and West Virginia) contain in-depth detail.

School Policies

Most of the states with limited policies have rules that state soda machines and snack machines must be turned off thirty minutes before school starts until the end of the last scheduled lunch period. Other states such as Virginia, Nebraska, New Jersey, Maine, Louisiana, Illinois, Hawaii, Florida, Connecticut, Colorado, and Alabama enforce the rule that foods of minimal nutritional value, and foods from fundraising may not be sold on school ground during school hours (11). The Food and Nutrition Service (USDA) developed comparisons of all competitive food policies that are currently in effect.
Ohio’s only regulations are those set by the United States Department of Agriculture (USDA). The Ohio Department of Education enforces the USDA policies and reiterates by saying that schools must plan meals according to the Dietary Guidelines for Americans (12, 13).

**California Policy**

California has a more regulated policy than what is established by the USDA. California has enforced a law that mandates all schools to comply with a list of approved foods. Fifty percent of the food items on the schools’ menus foods and foods that may be sold during lunch hours must come from this approved foods list. Their 2004 policy states that all food must be sold as a meal, and not as individual items. The only foods that can be sold as individual items are fruits, non-fried vegetables, legumes, beverages, dairy products, and grains (5). Meals are limited to no more than 35% of total calories from fat, 10% of total calories from saturated fat and no more than 35% total weight from sugar. The only beverages that may be sold during school hours consist of water, milk and juice containing at least 50% fruit juice. Foods sold as part of fundraisers have been exempted from schools during school hours, but may be sold after school is out. Elementary schools are the only schools completely affected by this law. Middle schools have regulations set on carbonated beverages, which says these beverages can only be sold thirty minutes before school and after the end of the last lunch period. High schools are not affected by any of the laws, but ten high schools were awarded a two-year grant to pilot the elementary school policy.
Texas Policy

Texas public schools implemented their own nutrition policy issued by the Texas Department of Agriculture, effective August 1, 2004 (4). The policy bans many foods, and sets regulations as far as grams of fat and ounces of yogurt, milk, juice, baked goods and snack foods. This policy, in addition to the federal School Breakfast and School Lunch programs, is already in effect. The policy is intended to supplement the U.S Department of Agriculture’s Food and Nutrition Services. The Texas policy is broken down into three categories according to school groupings. These include the following: Elementary Schools, Middle/Junior High Schools, and High Schools. The policy is divided among schools because children and adolescents have different nutritional needs and are at different stages of development. For example, portion sizes for French fries are constant among all three categories, but the three-ounce portion may only be served once per week at the Elementary level. At the Middle/Junior High and High School levels the same three-ounce portion may be served up to three times per week.

All schools in Texas have the same policy on competitive foods. They may not serve or provide access to competitive foods on school premises throughout the school day until the end of the last scheduled class (4). The difference between the Texas policy and other state policies is that the state of Texas went through the Texas Department of Agriculture to enforce their policy throughout all school systems. If Texas schools do not comply with the policy, their government money that is used to supply school lunches through the school lunch program will have to be repaid to the government.

The regulations are not set to control what children eat and drink, but rather to set standards to ensure that children are offered foods and beverages with optimal nutrients,
vitamins and minerals. Ala carte items do not have to be completely taken away, but the food choices that children have to choose from can be modified. By allowing children to still have some choices in what they eat and drink, schools are not completely controlling what children consume. Instead, schools have replaced the junk foods and empty calorie drinks with more healthful choices in attempt to reduce the number of overweight and obese children. In efforts to help set stricter guidelines for children in school, The Child Nutrition and WIC Reauthorization Act of 2004 have established a law that requires all schools to have a wellness policy in place. Within the policy, schools must set nutrition guidelines for all foods that are offered during school hours. The goal of this Act is to make it mandatory for schools to set limitations on things such as vending machines, in school fundraisers, concession stands, student stores, classroom parties and any meeting taking place within the schools (5).

National School Lunch Act

School meals supported by the government began in 1946 when President Truman signed the National School Lunch Act. School meals today differ by school system, but can include school breakfast and lunch, and in some districts may include a summer meal program. Every school in the United States must meet the lunch recommendations, which is 1/3 of the total requirements required for energy, and select nutrients (Table 1) (14).

<table>
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<th>Grades 7-12</th>
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<tr>
<td>Calories (kcal)</td>
<td>664</td>
<td>825</td>
</tr>
<tr>
<td>Nutrient</td>
<td>Value 1</td>
<td>Value 2</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Total Fat</td>
<td>Varies 1,2</td>
<td>Varies 2</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>Varies 1,3</td>
<td>Varies 3</td>
</tr>
<tr>
<td>Protein (g)</td>
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<td>16</td>
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<tr>
<td>Calcium (mg)</td>
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<td>400</td>
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<tr>
<td>Iron (mg)</td>
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<td>4.5</td>
</tr>
<tr>
<td>Vitamin A (RE)</td>
<td>224</td>
<td>300</td>
</tr>
<tr>
<td>Vitamin C (mg)</td>
<td>15</td>
<td>18</td>
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1. The Dietary Guidelines recommended that after 2 years of age “…children should gradually adapt a diet that, by about 5 years of age, contains no more than 30 percent of calories from fat.”
2. Not to exceed 30 percent over a school week
3. Less than 10 percent over a school week

Commodity foods including fresh, canned and frozen fruits, vegetables, meats, fruit juices, vegetable shortening and oil, peanut butter products, flour and other grain products are offered to schools through federal funding (11, 14). This allows low-income students to receive a healthy breakfast or lunch at a reduced or free rate. Efforts have recently been made to push for more fresh produce in attempt to make the meals healthier. Studies have shown that children who participate in the school meals program are more likely to consume milk, vegetables, meats and other essential nutrients than children who do not participate in the program (15).

School Food Service Directors

*Roles and Responsibilities*

The role of a food service director within school districts is not only to plan menus for each of their schools, but also to comply with the guidelines set for school meals, conduct reviews to determine who may qualify for the school lunch program, satisfy the student’s demands and requests, and oversee all of the kitchen staff (16). Food service directors work closely with all of the cooks from each kitchen within the schools in their district, especially their kitchen managers. They must supervise the cooks and cashiers at their schools, as well as make sure their kitchens are running smoothly and
efficiently. Food service directors may also be in charge of duties such as bid-buying foods, ordering and purchasing (16).

Overall, the jobs and responsibilities of food service directors deal with students in one way or another. Whether they are being told directly by students in the cafeteria, or whether they count the number of meals served each day, food service directors know what the students like, and what they dislike. Food service directors also have to keep track of the number of school lunches that are sold. Even though students may say that they like what is being served, the numbers may show them differently. Some things that school food service directors must consider when they get the count of school lunches sold are the number of students absent or on a field trip and the number of days that were in the school week. Food service directors may have a week that is low in meals sold, but that could happen to be a week when there was only three days of school. All in all, school food service professionals keep busy by planning, preparing and serving nutritious meals for their students (17). In order for a school’s food service program to run efficiently, it must sell school lunches. If the students do not like the lunches being served and do not buy them, then the school is losing money. The food service director must find ways to satisfy the students, the school and the government all at the same time. Food service directors may also add eye catching graphics to their menus that may catch their students’ attention so the students at least read the menu to see what is being offered, and to potentially encourage them to buy the school lunch (17).

*Insight*

Although most food service directors want the best for the students they are feeding, and spend numerous hours planning and creating healthy meals for the students,
there are often other factors that limit their decision making. For example, a food service director in Northwest Ohio spends countless hours planning menus and ordering food, but there are some factors that influence the food purchases that she makes. She stated that she follows the state and federal regulations closely so that the students who are eligible for free and reduced lunches are able to get them, but as far as competitive foods, she is faced with difficulty (18). Although she would like to purchase healthy, low fat and calorie foods for her students to purchase a la carte, she is sometimes influenced by the foods that actually sell and make her school district money. These foods consist of candy bars, chips and candy, which are all considered “empty calorie” foods. It is a tough decision for her, but if she knows that certain foods sell and make a considerable amount of money for her schools, then it almost seems hard to get away from them. If healthier foods that are lower in calories and fat then candy bars and chips were competitively priced, students might choose to buy them over the foods that are typically cheaper such as candy bars and chips. Until food service directors can purchase healthy competitive foods for a reasonable price, the problem with competitive foods will continue to occur. In a recent survey done in Pennsylvania, almost 40% of school food service directors reported that they felt their meals were not less than 30% of the daily calories like the USDA regulations require, and only 17% thought that on average their meals were under 30% fat. In the same study, researchers found that 85% of food service directors increased the amount of fruits and vegetables in their menu due to the new USDA regulations (19).
Barriers

Cullen et al (2006) conducted a 6-week study on making changes in the lunchroom, and how kids adapted to them. Some of the changes that they made included the promotion of fruits, vegetables, water, and lower fat food while reducing the students’ access to sweetened beverages and high fat snack foods (20). One of the issues they had to deal with prior to implementing these changes was cost, so they decided to incorporate only those fruits and vegetables that schools can receive from the national school lunch program. They found a decrease in the consumption of sweetened beverages and chips (by 28% and 16% respectively), and an increase in NSLP fruits and vegetable from 1.0 to 1.42. Overall, food service directors in this study were supportive of the changes, and they all received positive comments from the students, teachers, and parents.

Food service directors may want to add more nutritious food to their menus, or may want to develop nutrition education programs, or even get parents involved in their children’s food choices, but it isn’t always easy. Some common barriers against schools implementing quality lunch and nutrition education relate to lack of funding, lack of time for coordination and lack of support from children, parents and the community (10). First, food service directors only have so many hours in a day to work with, and they are spread pretty thin between all of their responsibilities. Adding another responsibility without any additional help could be overwhelming. It is known that in order for a nutrition education program to be effective, the program must coordinate from the cafeteria to the classroom, but this takes planning and collaboration (10). Other issues may arise when it comes down to who is going to take on the classroom portion of the collaboration. Does a teacher, a health educator, or a food service director teach this
course? Then, once a director is chosen, how do they get materials to teach the class?

Next, if a plan or program would go through, then the question would be if the school
gets the support of the parents to work with their children at home so the experience
would not only be at school, but also when the children are at home.

Competitive Foods

Today, teachers, administrators, parents, and persons in the community are
working with dietetic professionals to encourage healthy eating habits in children. In
many schools, soda has been replaced with water, milk and fruit juice (21). In the
cafeteria, healthy foods such as fruits and vegetables are more competitively priced,
which can hopefully take the place of other competitive foods that are empty calorie
foods (such as candy). Most often in schools today, children not only have the option to
buy the school lunch, but they also have the option of buying food items separately.
Typically those food items are sold alongside of the federally approved lunches, therefore
they are termed “competitive foods”. Studies of competitive foods across the United
States and in California showed that the most common foods offered as competitive
foods are candy, chips, desserts, ice cream and soft drinks (12).

Soft Drinks

Soft drink consumption contributes to overweight and obesity in school-aged
children (22). This poses a problem for many reasons, but mostly because children and
adolescents are continuously establishing eating habits. If the most commonly consumed
foods by adolescents and children are foods with minimal nutritional value, then this is
not only starting bad eating habits, but it is also potentially adding to the obesity problem
in the United States among children. Higher intake of sugar sweetened beverages and
soda is also associated with high-energy intakes, lower calcium intakes, and lower micronutrient intakes (23). Establishing nutrition standards for all foods sold on school property and revamping foods that are already sold would be a start to a solution to the obesity problem. Water is an essential nutrient in the body and is required for life of every organ and muscle in the body, yet the availability and consumption of water is outnumbered by soda and juice in most schools (24). Soft drink consumption has gone up by 300% in the last twenty years, and the serving size of soda cans has increased from 6.5 ounces to 12 ounces. Each 12-ounce soda that is consumed in a day has been shown to increase BMI by 0.18 points, and a 60% increase in the risk for obesity. Sugar-free soft drinks contribute only 14% to the amount of soda consumed by adolescents, and even sugar-free soft drinks contribute to obesity because most often adolescents over consume these products (25). In one study by Weicha et all, students reported buying sugar-sweetened beverages more than any other product in the vending machine (23). Conclusions to this study suggest that reducing product availability, or changing product use for the vending machines. These results are consistent with those from Kleiner et all, which suggests that water is being replaced by soda and sugar sweetened beverages (24).

**Choices**

There is a striking change that children face once they enter middle school. They then have more freedom and more choices to make. One of the more exciting choices that they get to make is their food choice in the lunchroom. They not only get to choose whether they will buy or pack their lunch, but they also get to choose if they would like extra food, also known as competitive foods. Statistics show that over 80% of schools sell a la carte items, with weekly sales ranging from $826 per 1,000 students, with 72%-
100% receiving free or reduced lunches, to $2,894 per 1,000 students (26). Middle school students who have access to competitive foods consume less fruits and vegetables on average (26). The transition from elementary to middle school for students includes a decrease in fruit and vegetable consumption and an increase in sugar, fat and calories (26).

**Plate Waste**

Plate waste of children participating in the school lunch program has been tracked since 1946 (27). Even though there are many nutritional benefits to school lunches, only 50% of children participate in school lunches (27). Marlette et al stated that previous studies tended to show that plate waste was a result of lack of knowledge of student preferences, but more recently, studies have shown that plate waste is more closely related to competitive food sales (27). Since the food industry has begun packaging more foods to sell as competitive foods, the sales have gone up tremendously. The availability of the competitive foods is much greater than it has been in the past, therefore, children have many more choice to make once they step into the cafeteria for lunch (27). Marlette et al found that plate waste was a result of children’s taste preferences, but more importantly, the most wasted foods were fruit and vegetables. The decrease in diet quality in children’s diets has been linked to a decrease in milk and fruit consumption (27). Competitive foods tend to be higher in fat, calories and sugar, but the government only has standards that must be met for school lunches, and competitive foods do not fall into that category. (27).
Children’s Food Consumption

Millions of American children are able to benefit from the initiatives of the USDA’s school lunch program in order to get a nutritionally sound meal (15, 2). The problems start when children have other options besides the school meal, which is measured out for quality and nutrients. A quality school lunch program is one that provides tasty, appealing, healthy and diverse foods that attract students to purchase them (10). As early as elementary school, children are able to buy foods such as ice cream, cookies and snacks which have low nutrient density in addition to what they eat from their sack lunch or their meal provided by the school, and statistics show that fats and sweets make up about 40% of children’s diets (28). It does not benefit children to consume such sugar filled, fatty snacks when a nutrient dense meal is being provided for them. In some schools, pedometers are given as rewards in the classroom in place of pizza parties (21). That is just one example of a way that teachers can help encourage children to exercise, instead of filling them with treats for encouragement.

Poor Eating Habits and Inactivity

Poor eating habits and inactivity are the root causes of overweight and obesity (1). In the United States today, about 60% of the adult population, and 15% of children are overweight or obese (29). There are many factors contributing to this problem, many of which begin throughout childhood. Children often mirror behaviors from their parents, which means if a child’s parents have unhealthy diets and eating habits, the child is likely to do the same. The healthy growth and development of children is influenced by many factors, not only by encouraging proper early nutrition, but also by establishing effective eating behaviors early on in their life (30, 2). Healthy eating habits beginning early in
life promote proper growth and development, and proper intellectual development for young children (21). Food habits often come from home and the way parents allow their children to eat, but if children are not tempted by the high fat, high sugar, low nutrient foods that often appear in vending machines and soda machines, they simply will not choose them (31). Of course children could still bring snacks from home, but that is out of the control of the school.

Influences

Children are also influenced by social situations, so if their friends are all buying ice cream or cookies, then chances are they will crave those snack foods as well. When snacks and junk foods are not available to children, they will be forced to choose healthier foods (30, 2). School health and nutrition programs can help children to choose healthy foods by making healthy foods available to them. The Surgeon General, Vice Admiral Richard H. Carmona stated that physical activity and healthy food choices should be “a standard fare” in every school (21). Children are influence by social factors (peers) and are also influence by their parents and from the older and younger generation (7). They tend to eat what they see other people in their lives eating; therefore their behaviors can be easily manipulated and/or changed. There are also natural influences on children’s eating habits. Infants and children ages 4-5 typically have a greater interest for sweets and sugar opposed to other types of foods (32). A study was done to find if restricting sweets would be a successful way to keep kids away from highly sweetened foods and beverages, or if the restrictions would make them choose the sweetened foods and beverages over unsweetened if they were given the option. Liem et al found that 55% of children who were highly restricted from sweets chose the highest concentration
of sucrose in orangeade. Nineteen percent of the children who were only mildly restricted chose the lowest concentration of sucrose, while 33% of them preferred the beverage with the highest concentration (32).

Advertising

Children of the 20th and 21st Century have grown up watching cartoons that are surrounded by unhealthy, sugary snack and food commercials (33). According to news reports, parents claim that their children’s food choices are directly affected by which cartoon character is on the box of cereal, which is most often a sugar filled, fortified cereal. Some children even ask for snacks by reciting the jingle that advertises whatever they are asking for, such as chocolate-chip cookie cereal (34). To add to this problem, biological factors cause children to crave sweet and salty foods (35). A vending machine is the equivalent of a neon billboard that advertises for soda.

However, it is not only our children being targeted through commercials and advertisements. Parents are targeted as well, but certainly in a different way. Commercials aimed towards adults show parents enjoying sugary or unhealthy snacks with their children, which infer that to love your child you must spend time enjoying sweet snacks together. Some researchers argue that advertising that promotes the use of sweets as a sign of love is contributing to the childhood obesity epidemic (35). Since advertising sends parents those false messages, they may reward their children with sweets such as candy, cookies, fast food, soft drinks and snack chips. Children learn best by having somebody model a behavior to them, so if parents choose to give their children foods of minimal nutritional value, they are in a sense showing their children that eating such foods is a normal, acceptable behavior. It is important to let children know that
some commercials advertise foods that are not healthy for their bodies, and just because they are making them look healthy and appealing on television, does not mean that they really are (33). This may help children, especially young children, to understand the difference between what is shown on TV and what is realistic. Teaching children about nutrition in school could help them to recognize some of these misleading advertisements when they see them.

Since the concern for children’s health has been on the rise, food manufactures have tried to respond to the issue. Between the years of 2000-2004, manufactures have improved their products by using whole grains, less sugar and less fat (36). The new low-fat, low-sugar, whole grain products now represent 15% of all new children’s foods, compared to 9% in 1995 (36). Manufactures introduced 35 new products with whole grain ingredients during the time period of 2000-2004, and all but one of the products were breakfast cereals.

**Theory of Reasoned Action**

Many people believe that behavioral prediction is an important factor to consider when conducting qualitative research. In most all situations, people base their actions on prior thought and reasoning before they actually choose to “engage” or “not engage” in certain behaviors (37). According to Ajzen and Fishbein, the first step to predicting and understanding behaviors is to “identify and measure the behavior of interest”. With that, after the behavior is identified, one can then begin to figure out or ask what causes the specific behavior. Once the cause of the behavior, or intention, is determined, the theory of reasoned action makes it easy to decipher between a person’s intentions and their actions. If a person tells someone that they were not in favor of implementing a school nutrition policy, then it is more likely that, they will not cooperate or accept the policy in
a positive manner. In such a case, the administrator or food service director’s response to survey questions may reflect their attitude.

The theory also states “person’s intention is a function of two basic determinants, one personal, and the other reflecting social influences” (37). The personal factor actually reflects a person’s “attitude toward behavior”. This allows individuals to show whether they think a behavior is good or bad, and allows others to acknowledge whether they are likely to perform the behavior or not. Social influences include social pressures put on an individual to either perform or not perform a specific behavior (37). For example, if a food service director or school principal is neutral to the implementation of a school nutrition policy, but students, parents and/or teachers strongly disagree or agree with it, then the administrator or food service director may be influenced by these people. They may then begin to have negative or positive attitudes or thoughts towards the policy. In the theory of reasoned action, people will have the “intent to perform a behavior when they evaluate it positively and when they believe that important others think they should perform it”, which may be strongly influenced by their educational and personal background (37).

According to Ajzen and Fishbein 1980, social pressures are termed “subjective norms” because it is based on other people’s beliefs as well as their own. This is important to our study because it is important to have reasoning behind interviewees’ answers. If they indicate that they have a lot of pressure or support from parents, students or the community, then their answers may reflect that. Use of the theory will help researchers to understand why the new Texas policy is, or is not working for different school systems.
Issues may arise when someone’s attitude conflicts with the subjective norm. When this happens, decisions are made based on which factors are weighted more by comparing attitude, subjective norms and weight put on both, it may be possible to understand the intentions of an individual (37). Ajzen and Fishbein 1980 state that when an individual’s decision reflects their attitude more than other factors, it is termed a “behavioral belief”, and when it reflects subjective norms, and then it is termed a “normative belief”. They also state that some people may think that external factors, such as demographics, social role, status, intelligence, and kinship patterns, may play a significant role in decision-making. However, the theory of reasoned action specifies that “external variables” do not play a significant role in decision making. Ajzen and Fishbein 1980 hypothesize that “there is no necessary relation between any given external variable and behavior. Some external variables may bear a relation to the behavior under investigation while others may not, and even when a relationship is discovered, it may change over time and from one person to another”.

Qualitative Research

In order to further study the effects of school nutrition policies, a qualitative method of research will be utilized in this study. Qualitative research focuses on the process of “reviewing, synthesizing and interpreting data” in order to describe or explain topics of study (38). It also focuses on in depth research that is centered on what people really do instead of what they say they do. Both the data collection and analysis of qualitative research are non-quantity, meaning they do not deal with numbers. Qualitative research is being used because it allows researchers to humanize data or problems, and also use holistic views in place of a narrow view. Qualitative research is
also exploratory, and allows themes to emerge from the study that may help to guide future research by suggesting important topics. Qualitative research focuses on addressing questions centered around “human lives and social worlds” in order to understand and gain meaning (38).

Using interviews in qualitative research allows interviewees to share their side of a story, and express their feelings according to their social worlds. Interview guides usually provide a list of questions, which are read to the interviewee in a conversation-like manner (38). This approach is helpful in the sense that the interviewee does not feel pressured, and can reflect in a way that is comfortable to them. Semi-structured interviews permit conversation beyond the specific question which can potentially help the researcher with other interview questions, or to help the interviewer better understand why the interviewees feel the way they do about the particular issue.

The purpose of this study is to gather information from school food service directors about their experience with the Texas school nutrition policy using an in-depth interview.
CHAPTER III. METHODS AND PROCEDURES

Design

This qualitative study was designed to determine perceptions and experiences of food service directors (FSDs) in Texas about their school nutrition policy. The research took place between August 2005 and May 2006. This study was done as part of a larger study carried out by researchers from The University of Toledo (UT) and Bowling Green State University, which consisted of interviewing school principals. For the principal study, schools were randomly selected from a systematic sample of Texas school districts. Schools were called until 24 principal interviews were completed. For the FSD component, FSDs from the schools with a principal interview were called. A semi-structure, open-ended interview was used to ask the FSDs about their opinions and experiences with the Texas school nutrition policy. Approval from the Human Subjects Review Board was granted from both UT and BGSU for the project. Participants gave oral consent at the beginning of their interview.

Participants

Food service directors were selected from twenty Texas school districts, but the actual results included ten FSDs from six regions. The state is divided up into twenty regions based on geographic location (Appendix D). By using several school districts in Texas, researchers were able to gain information from a variety of middle schools to better reflect the regional differences from different areas of the state.

Interview Questions

The survey was first developed for a school principal, and was modified for school food service directors. The semi-structured interview (Appendix C) was designed
to explore information about the Texas school nutrition policy. The survey consisted of fifteen questions, some of which had subsections. The FSDs were asked to state any positive or negative changes they had encountered with the implementation of the policy. They were also asked questions according to how they felt the policy had affected students, including behavioral changes. The interview guide also included questions about feedback received from parents and teachers of students within their school and the financial effects that the nutrition policy had on their food sales or school. There were also questions about changes that had to be made on the food service director’s part.

Pilot study

An undergraduate student at Bowling Green State University pilot tested the survey in Texas with a principal. His main comment was that there were too many questions and the interview took too long. The survey was revised based on his feedback. The revised interview guide was then pilot tested with a principal in Ohio. He was asked to pick out any questions that did not belong in the interview, and was asked to add any questions he felt were left out of the interview. The questions on the interview guide were shortened and reworded based on his feedback. Finally, the interview questions were tested with an individual that was not related to the study to determine the length and flow of the interview. All pilot testing was with persons who were not connected to the study.

Interview Procedure

The interviews were conducted over the telephone and took approximately ten to fifteen minutes depending on the length of the answers to the interview questions. There was a written script that the researcher read from which consisted of a semi-structured
format with open-ended questions so the interviewee was able to elaborate on their answers. Probing was used so the researcher could obtain a thorough response from each participant. There were several types of probes that were considered acceptable. The researcher allowed the participant to finish their own sentences, asked for more information about certain answers, and asked for clarification (39). These techniques helped to probe the participant into giving a more thorough response. One important issue the researcher had to be aware of was social desirability. This is when a respondent reacts to a question a particular way due to the pressures they have upon them, either from students, teachers, parents or people in the community. For that reason, it was extremely important for the participants to know that their responses would remain completely confidential.

Transcription and Analysis

After all interviews were completed, they were transcribed verbatim including questions, answers and probes, by a researcher using a template that included all of the questions from the survey. All interviews were recorded on audio tape, as well as notes on a paper copy of the script in case a tape recording would be misplaced, lost or damaged. Each interview was recorded not only to help analyze results, but also to keep results consistent and to show that the interviewer was not trying to lead the interviewee into giving desired responses. Recording each interview on a separate document allowed researchers to look at each interview by itself. After each interview was analyzed, all of the interviews were studied as a whole.

After each interview was transcribed, a researcher read through each interview to find themes. Themes consisted of common and emerging thoughts or opinions from the
food service directors. First, the researcher reviewed, identified and coded for emerging themes within the responses from each individual FSD by question. Next the researcher coded for recurrent themes among all interviews with all of the participants (38). The researcher also looked for similarities and difference between the interviewees’ responses. The information obtained from the interviews was then compared and contrasted to the responses from the other schools that participated in the study. The comparisons included demographics of the schools including size and location, and previous experience with school nutrition interventions. This helped to distinguish themes within the responses. Concept mapping was used to assess and understand emerging themes from the data collected by dividing each interview into its own map, which allowed for themes that were common between subjects to be identified more clearly (40).
CHAPTER IV. RESULTS

Response Rate

In this study, ten of a possible twenty one respondents agreed to participate (Table 1). Of the ten food service directors who chose not to participate in the study, seven of the ten chose not to participate because they were not interested in the survey. Of the seven that were not interested, one stated that she was not interested because there was a language barrier between the interviewer and herself. Another one of the seven that were not interested in participating in the survey stated that she was not familiar with the policy and was not comfortable participating in the survey. Three of the ten remaining food service directors chose not to participate in the study because they did not have enough time. One of the ten food service director was not available to participate in the survey.

Background of Food Service Directors

The food service directors that participated in the survey had various backgrounds, including degrees completed, the number of employees supervised, and the number of years in their current position. Four of the respondents were food service directors, and the others had titles such as Child Nutrition Manager, Director of Nutrition Services, and Assistant Director of Food Services. The educational background of the food service directors ranged from high school graduate, to a masters degree in science education. Of the ten participants, three had high school degrees, and one of those three had one year of college (Table 1).
Table 2. Subject Profile of Food Service Directors from Texas

<table>
<thead>
<tr>
<th>School Region</th>
<th>Highest Degree Completed</th>
<th>Title</th>
<th>Employees Supervised (n)</th>
<th>Time in Current Position (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>High School + 1 year college</td>
<td>FSD</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>2 years college-Diet Assistant</td>
<td>FSD</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>11</td>
<td>Political Science (BA)</td>
<td>Assistant Director of Food Service</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Food Science (BA); Science Ed. (MS)</td>
<td>Director of Child Nutrition Services</td>
<td>880</td>
<td>30</td>
</tr>
<tr>
<td>11</td>
<td>Business (BA)</td>
<td>Director of Nutrition Services</td>
<td>105</td>
<td>6 ½</td>
</tr>
<tr>
<td>12</td>
<td>High School Food Science (BA)</td>
<td>FSD</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>3 ½ years college (Business Administration)</td>
<td>FSD (Supervisor in Waco)</td>
<td>150</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>Business (BA)</td>
<td>Child Nutrition Manager</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>15</td>
<td>High school</td>
<td>FSD</td>
<td>158</td>
<td>19</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>FSD</td>
<td>4 high schools, and 5 junior high schools</td>
<td>28</td>
</tr>
</tbody>
</table>

Common Themes from Interviews

Themes, which are defined as concepts that were mentioned in more than one of the interviews, were developed to represent the main topics from the interviews (Table 2). Listed within each of the emerging themes are the actual comments that were made by the food service directors about the topics.

Nine of the ten FSDs approved of the policy. Many these FSDs mentioned that the health of the children is their main concern, and the policy is helping them keep the students healthy. One FSD said, “I feel like it is really helping the children of Texas” since the policy requires the schools to offer healthful snack choices and limits foods of minimal nutritional value. Another FSD said the policy “provides guidance to improve the nutritional atmosphere inside the school districts”. Aside from the FSDs approving of
the policy for the health of the students, one FSD even stated they felt the policy allows the state of Texas to be one step closer to improving the obesity issue in Texas. All of the FSDs that approved of the policy agreed that the state is going in the right direction to improve the overall health of their students.

Although the FSDs overwhelmingly approved the policy, they also experienced challenges and difficulties in its implementation. The most common reason given as to why the one food service director did not like the policy was because of the children being unhappy with not being able to have French fries. One FSD mentioned students did not like baked French fries, and two FSDs noted that students did not like the reduction in portion size of fries. A related problem was having the equipment available to prepare foods that complied with the policy. Schools must have ovens to bake their fries, instead of using deep fat fryers, but not all schools have such equipment, which poses a financial issue of funding the new equipment. One school noted that they did not have the money to purchase the equipment; another school noted that they would be spending close to $80,000 in new equipment. One food service director said their schools have had to find different ways to raise money since many fundraisers were no longer approved. Another FSD stated their vending machines bring in extra money, but related to the restrictions that were put on the sale of competitive foods, some of this money has been lost. Seven FSDs said that overall, their schools were not negatively impacted by the implementation of the policy.

Table 3. Verbatim Responses from Food Service Directors in Texas by Question and School Grouped by Similar Responses
<table>
<thead>
<tr>
<th>Question</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Approval</strong>  &lt;br&gt;• I can see where they are coming from (A)*&lt;br&gt;• It is a good policy. I think it is important that we realize what the ultimate goal is and that’s to have healthy children. I think it is a good start (B)&lt;br&gt;• It didn’t impact our program negatively at all (D)&lt;br&gt;• Oh I think it’s great (E)&lt;br&gt;• Um, I agree with it, I think that it has helped our food service program; it has given us definite guidelines (H)&lt;br&gt;• My opinion is that they are going in the right direction with trying to provide the children with adequate nutrition to be able to get the children in the right state of health condition to where our children will be in a state of fitness where they will not have to be worried how they are as an adult (I)&lt;br&gt;<strong>Liked with reservations</strong>  &lt;br&gt;• Some of the policies are good and not good (C)&lt;br&gt;• I think it provides guidance to improve nutritional atmosphere inside of a school district. I think the restrictions however, lacks validity as to the aspect as to why particular products were limited and others were not (F)&lt;br&gt;• I think it is a good idea but the students hate it. I think they need to learn how to eat at home first (G)&lt;br&gt;<strong>Did not like</strong>  &lt;br&gt;• I think that it’s a little too complicated for people to understand because there are three different levels (J)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Clarification needed</strong>  &lt;br&gt;• The main issue that I have encountered is having to clarify and re clarify what the policy is. (B)&lt;br&gt;• I just get a lot of questions, more than anything. You know, I have principles that will call me for clarification, um, I get food managers calling me about parties in the cafeteria, and its just more clarification (J)&lt;br&gt;• it really is at the administrative level is where I had my significant problems at (D)&lt;br&gt;<strong>Portion sizes and food problems</strong>  &lt;br&gt;• Some issues are that some students are complaining about the small portions of the fries, and why the small portion, and the issue of the fries are no longer deep fried, they are oven fried and they have noticed that the taste has changed (I)&lt;br&gt;• Of course all of the kids were upset especially about the French fries. The whole policy went a little far (C)&lt;br&gt;<strong>None/Few</strong>  &lt;br&gt;• None (A)&lt;br&gt;• None (E)</td>
</tr>
</tbody>
</table>
| **3** | **Food/content changes**  
- Well we don’t fry we bake; we do a lot of the heart smart healthy snacks. We sell juices and water and sports drinks. We don’t sell cokes at all (E)  
- Um, I think that probably we made the adjustment by cutting down on the snack items that we sell (H)  
- Well we were already only frying, we are still frying in our schools, but we do only fry 3 days a week and the three ounces of French fries was a change, um, the candy was a change (J)  
**None/Few**  
- None that I’m aware of (A)  
- Well fortunately we had to make minimal changes probably the biggest on was that was obvious the reduction of French fries (B)  
- I didn’t have to make any (D)  
**Equipment changes**  
- We had to buy new ovens (C)  
- I am spending close to $80,000 implement new equipment the production of French fries (F)  
- Eliminate the deep fryers (I)  
**Other**  
- Well like I use to have, my snack bar use to be a reimbursable line, where we get the federal money. I had to make it just a cash line (G) |
| **4** | **Like the changes**  
- Well the comments that I’ve heard is through, taste testing. They like being given choices especially healthy choices (D)  
- A lot of them like the heart smart stuff. A lot of them want to know, a lot of younger ones that come into the district, want to know why we don’t have cokes. But once they are offered the milk and the juice they don’t complain (E)  
- I’ve heard that some do like the oven fried French fries, some of them don’t. Um, they say that the new guidelines that we’re doing on the foods of giving them more nutritional value foods, um, some of the girls, because we are in the middle school, like the food because it is a more controlled diet and keeps them more in line. I have heard very good comments about it, and very few are complaining about it (I)  
- Actually, very few, they like the product we have put in place, um, I don’t, have not received many complaints (H) |
| 3 | None/Few comments
|   | • Couple here and there, but after the first couple of days they understand (A)
|   | • The comments from the students, hardly any, the changes have been so subtle (B)
|   | • I personally haven’t heard anything (J)
|   | Students upset/Dislike serving sizes
|   | • The students were of course upset with the portion size. Upset that they could not buy anything a la carte anymore. There have been a lot of kids that are just bringing things from home; I would’ve heard from about 75% of them (C)
|   | • Complaints on the serving sizes (F)
|   | • They hate it. We hate it (G)

| 5 | Do you know if students are substituting previously purchased items with items brought from home?
|   | Yes
|   | • Yes they are (C)
|   | • On many cases yes (F)
|   | • Yes they are bring pack lunches (G)
|   | • Um, yes I have run into that, where as, like the chips for instance, a child will bring a big bag of chips, and will want to share it with everybody at the table (H)
|   | No
|   | • I am not aware of that. I don’t believe so (A)
|   | • Not that I know of, I have never noticed it (I)
|   | • I haven’t noticed too much of that, there may have been some who may opt to do that but our counts and our participation rates are relatively the same, its negligible (B)
|   | • Our sales don’t indicate that, so I would have to say no (J)
|   | Unsure
|   | • I couldn’t tell you that to be honest with you (D)
|   | • I don’t know. I don’t think so. I mean my counts haven’t went down (E)

| 6 | Have you received any feedback from parents about the new regulations?
|   | No feedback
|   | • No (A)
|   | • No the parents, they don’t say much. I haven’t heard a thing (G)
|   | • No I have not (I)
|   | Other
|   | • I think there is real mixed emotions between parents; I’ve heard from a lot of parents (F)
|   | • Um, I’ve contacted PTA’s, mainly parents have called just to make sure that they have the regulations right so they are in compliance (H)
|   | • The only thing we do receive feedback on is having to provide two different, um, sets of milk, you have to do a ½ percent or 1 percent, or 2 percent, and it gets complicated on our end with production records (J)
<table>
<thead>
<tr>
<th>7</th>
<th>Have you received any feedback from teachers about the nutrition policy?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>None or little feedback</strong></td>
<td></td>
</tr>
<tr>
<td>• No (A)</td>
<td></td>
</tr>
<tr>
<td>• No they don’t complain either (G)</td>
<td></td>
</tr>
<tr>
<td>• Well I’ve heard two. And two in two years is not bad (D)</td>
<td></td>
</tr>
<tr>
<td><strong>Food as a reward in the classroom</strong></td>
<td></td>
</tr>
<tr>
<td>• I talk more to the principles, and yes, they um, they really don’t care for all of the rules and regulations. They want to be able to reward their students with whatever item they want to reward them with and they want to have rewards for their students whenever they want to (J)</td>
<td></td>
</tr>
<tr>
<td>• Um, yes, teachers, I think principles in a lot of cases, but teachers were concerned about what they can to do for treats and things, rewards (H)</td>
<td></td>
</tr>
<tr>
<td>• Oh yes we have definitely received a lot of feedback from the teachers; they tend to reward children with food. That’s what we are trying to gear them away from. That there are other rewards other than food (B)</td>
<td></td>
</tr>
<tr>
<td><strong>Negative comment</strong></td>
<td></td>
</tr>
<tr>
<td>• A lot of teachers preferred the deep friend potatoes and the bigger portions (I)</td>
<td></td>
</tr>
<tr>
<td>• The teachers are not happy with it (C)</td>
<td></td>
</tr>
<tr>
<td><strong>Positive comment</strong></td>
<td></td>
</tr>
<tr>
<td>• They like it. Its a little hard on them when it comes to birthdays and things (E)</td>
<td></td>
</tr>
<tr>
<td><strong>Mixed reaction</strong></td>
<td></td>
</tr>
<tr>
<td>• Yes we have. Not necessarily teachers. It has been more from campus administrators and again it is spilt about 50/50 (F)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8</th>
<th>What are the vending machines used to sell in your school?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beverages</strong></td>
<td></td>
</tr>
<tr>
<td>• We sell juice at the junior high and the high school level. It’s not done through the food service there is all sorts of stuff in there (A)</td>
<td></td>
</tr>
<tr>
<td>• We sell juice, water, sports drinks that’s it (E)</td>
<td></td>
</tr>
<tr>
<td>• Water or 100% juice (F)</td>
<td></td>
</tr>
<tr>
<td>• The biggest change is that there are no carbonated beverages in the school, in the vending machine. Basically we are dealing with stuff</td>
<td></td>
</tr>
</tbody>
</table>
like PowerAde and things of that nature (B)

- Depending on the campus elementary we sell water. Junior high and middle school we sell juice, water, milk, cheese and yogurt. At the high school our vending machine are milk, yogurt, cheese, different juices, PowerAde. We do still have a Lance machine up there that we sell crackers and things like that (C)
- We have um, 100% juices, but nothing artificial or carbonated (I)
- We have Dr. Pepper products, and carbonated beverages, and we sell the non-carbonated items that Dr. Pepper sells, and we also sell 100% fruit juices in the vending machines and water and they have snacks and they sell candy and cinnamon rolls, um, that’s pretty much it. (J)

**Food**
- At the high school level they’ll sell cookies and crackers. All those things within the guidelines (D)
- Here at high school is the only place we have vending machines. They have the chips that are whole grain. They have the candies with nuts and they have really cut down quite a bit on that to (G)

**Time restrictions**
- We don’t have any in the elementary schools for the students, um, middle schools and high schools, of course, the vending machines are off during meal periods time in the serving area in the high school (H)

<table>
<thead>
<tr>
<th>9</th>
<th>State mandated</th>
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<tbody>
<tr>
<td>What school policies does your school have regarding the sales of competitive foods?</td>
<td>This time the nutrition policy governs that (F)</td>
</tr>
<tr>
<td>Policies are the same as the state of Texas the way it was written that is our policy (B)</td>
<td></td>
</tr>
<tr>
<td>We are going to go by exactly what the government told us we have to (C)</td>
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**Time restrictions**
- Well we don’t sell competitor food to elementary at all. At the junior high they have a break; But not at lunch time. They have competitive food but it’s not in the cafe… It’s kind of out in the courtyard (A)
- Uh, well we adhere to the guidelines, they don’t sell during our food service times (H)
- We have a board policy that restricts the sales of competitive foods during food service (J)

**Don’t sell competitive foods**
- We don’t do it (E)
- We do not sell competitive foods at all (G)
- We follow the states mandate so we don’t have any (D)

**Content restrictions**
- Basically it cannot have certain amount of sugar in it, and it cannot be candy and it cannot be hard candy, ice cream and that kind of stuff (I)

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<tr>
<th>10</th>
<th>None/Very little</th>
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<tbody>
<tr>
<td>Do you know if</td>
<td>I don’t believe so. (A)</td>
</tr>
<tr>
<td>Question</td>
<td>Responses</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>there has been a financial impact on the school due to the new policy?</td>
<td>• The impact is slight; Really not much at all probably if they’re we’re a change it would be in decrease of ala carte sells (B)&lt;br&gt;• No. There has been no financial impact at all (D)&lt;br&gt;• I don’t really think there is a problem (E)&lt;br&gt;• We don’t see any in our department; in fact, we have increased participation in our district without enrollment going up (H)&lt;br&gt;• No because of us substituting other things to the children for the competitive foods. Like now they have chips that are baked and not fried, we have fruit snacks, we have frozen fruit drinks that are made with 100% fruit juice that are like slushies that we can put there for the kids to buy with their meal (I)&lt;br&gt;• In our district, no there has not (J)</td>
</tr>
<tr>
<td>If you had the opportunity to change the policy, would you change anything?</td>
<td>Yes&lt;br&gt;• Yes there has most definitely in several different areas because fundraisers for the school (C)&lt;br&gt;• Yes; Our revenue sales are down from competitive foods (F)&lt;br&gt;• I know right now I was talking about my budget, I’m running out of money (G)</td>
</tr>
<tr>
<td>No</td>
<td>• No (A)&lt;br&gt;• No, not particularly (H)&lt;br&gt;• Actually no I wouldn’t (I)&lt;br&gt;• Well it wouldn’t be the policy (E)</td>
</tr>
<tr>
<td>Allow more food choices</td>
<td>• Yes I would. I would change the serving size. I would change how things are worded (C)&lt;br&gt;• To be honest, I don’t think we should have the government regulate us. Because I think all foods are good foods it’s just in moderation (D)&lt;br&gt;• I think I would probably let them have more of what they want (G)</td>
</tr>
<tr>
<td>Simplify the policy</td>
<td>• I would make it more user friendly and easier to understand. If it’s a pretty much a cut and dry policy and everyone follows that same policy regardless of the level that they’re at, the grade level that they’re at, it would make it a lot easier for teachers and administrators to understand (J)&lt;br&gt;• Might not get quite as cumbersome, and either we deal with a lot of exceptions in the policy that make it difficult to carry out and implement. The other thing is I would probably prefer a across the board standard policy for all school levels. That’s probably the hardest thing to try and communicate to administrators, teachers, parents and everyone is why do I have all these different levels (F)</td>
</tr>
<tr>
<td>Change implementation</td>
<td>• Probably would be some changes but not at the actual intent of the policy but by the methodology in which it is being done; More</td>
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<tr>
<td>12</td>
<td>What recommendations would you make to those in other states who would like to establish a similar policy?</td>
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<td>-------------------------------------------------------------------------------------------------</td>
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<td></td>
<td>Talk to FSD/Team approach&lt;br&gt;• One of the things that I would recommend that they have a total team approach to it (B)&lt;br&gt;• The biggest recommendation that I would make is that they go to the school food service professionals (C)&lt;br&gt;• I think that they need to work with the other principals and teachers when they’re creating this policy and parents (J)&lt;br&gt;• I think the Texas policy is a good basis as far as a beginning point. I certainly would allow additional input from food service directors and school administrators on how best to implement that policy (F)</td>
</tr>
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<td></td>
<td>Go for it&lt;br&gt;• Go for it; I didn’t have any problems (E)&lt;br&gt;• I guess they just need to get started, and start a policy stay with that (G)&lt;br&gt;• Um, I guess to get a copy of our policy and see what they can do to implement it. (H)</td>
</tr>
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<td></td>
<td>More forms&lt;br&gt;• Have more forms. Because I don’t think parents were well informed or understood the policy when it first came out (D)</td>
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<td></td>
<td>No comment&lt;br&gt;• (No comment- A)</td>
</tr>
<tr>
<td></td>
<td>Look at manpower/equipment&lt;br&gt;• My recommendations would be to look at what the schools have as far as equipment and man power to do this before they go into it (I)</td>
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<tr>
<th>13</th>
<th>Are there aspects of your work that have become more or less satisfying since the implementation of the new policy?</th>
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<td></td>
<td>Additional work/a bit harder&lt;br&gt;• No there is just more, it’s a little bit harder (E)&lt;br&gt;• I have an additional workload (F)&lt;br&gt;• Its definitely made our program the food police, and whether its good or bad, that’s really the role that we’ve been put in because somebody has to monitor this (J)</td>
</tr>
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<td></td>
<td>No&lt;br&gt;• No. Been the same since I have been here since this year (A)&lt;br&gt;• Not this policy. Wellness is taking more of my time than this policy. It really didn’t have an impact (D)</td>
</tr>
<tr>
<td></td>
<td>About the same&lt;br&gt;• Probably about the same (I)&lt;br&gt;• No its not less satisfying (B)</td>
</tr>
<tr>
<td></td>
<td>Dealing with parents/children&lt;br&gt;• I think only dealing with parents and kids on this (C)</td>
</tr>
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More satisfying
• Um, probably more satisfying because I’m seeing more concern of on the side of the parents and that it is brought to their attention that children need to have good nutrition habits at home as well as at school and I think that is beginning to come out more and more (H)

No comment
• (no comment) (G)

*(A)-(J) represent schools that were included in the study.

In interviews, food service directors expressed how they felt about the policy, and how they think children and teachers have reacted to the policy. A number of themes came up within individual questions from at least three different FSDs. The most common themes are listed in the table below based on theme and question. Some of the food service directors expanded on their responses to explain their feelings towards the questions, so a few comments are also listed from various FSDs. The main ideas stated by FSDs were that the policy was a good policy, the policy was bad, lack of communication when developing the policy, the policy should include a team approach during policy development, and the costs associated with the implementation of the policy.

Table 4. Common Themes from Survey Responses from Food Service Directors in Texas

<table>
<thead>
<tr>
<th>Themes- Below are direct quotes that have been taken from some of the interviews</th>
<th>Questions Involved</th>
</tr>
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</table>
| 1. Good Policy/Idea  
• It is a good policy. I think it is important that we realize what the ultimate goal is and that’s to have healthy children. I think it is a good start  
• They like it. It’s a little hard on them when it comes to birthdays and things | 1,2,4,6,7 |
| 2. Lack of communication  
• The biggest issue was some lack of communication  
• Well it’s really the principal not making their staff more aware of the fact that they can’t have the pizza parties, or | 1,2,11,12 |
they would like to ignore the fact they can only have three parties per year.

3. Need for clarification
   - I think that it’s a little too complicated for people to understand because there are three different levels
   - The main issue that I have encountered is having to clarify and re clarify what the policy is

4. Servings/Food content
   - Of course all of the kids were upset especially about the French fries. The whole policy went a little far
   - Well we don’t fry we bake; we do a lot of the heart smart healthy snacks. We sell juices and water and sports drinks. We don’t sell cokes at all

5. Had to purchase new equipment/Financial impact
   - We had to buy new ovens
   - I know right now I was talking about my budget, I’m running out of money

* Topics were chosen based on the number of times the topic was mentioned throughout the interviews.
CHAPTER V. DISCUSSION

Research supports the need for changes in school food service (41). Since Texas had one of the first policies, it was important to determine how Food Service Directors (FSDs) reacted to the policy, and if there are lessons that can be learned from the implementation.

Six of the FSDs liked the policy stating the state of Texas is going in the right direction, and their main goal is to have healthy children. Most of the FSDs that liked the policy revealed that it is ideal to have some guidelines to help them preserve the health of their students. One FSD said “it is nice to be able to know that we are helping the students by giving them proper guidance as far as nutrition”. One food service director liked the policy because it was teaching the children portion control by only allowing them to have one serving of foods such as French fries. This FSD mentioned that children are less likely to stand in line for a second order of fries. Recent studies show that people tend to eat what is put in front of them, and larger portions increase consumption (29). Another FSD said that the teachers and principals are being responsive by calling and asking question about how they too can be in compliance with the policy. This is an example of a collaborative effort between food service, administrators and teachers (42). The themes that shaped how the FSDs who approved of the policy felt include that they approve of the policy, and that they like the content changes in the foods served, such as the heart smart items.

Although the majority of the FSDs liked the policy, some like the policy with reservation, and only one FSD disliked the policy completely. The one FSD that disliked the policy stated that the policy is too complicated for people to understand. One of the
FSDs with mixed feelings stated they think the policy is a good idea, but the students hate it because the students do not like the baked French fries; one mentioned that the students are upset about the portion sizes. Another theme is lack of communication prior to implementation of the policy. The need for clarification of the policy was mention in responses to three questions. An additional theme included costs associated with the policy. Two FSDs noted they had to purchase new equipment in order to be in compliance with the policy, but overall, seven FSDs said there has been little or no financial impact on the school due to the policy. These themes shaped what and how the FSDs with reservations felt about the policy, help us better understand where the emphasis is for the FSD, and are important to highlight the positive and negative aspects of the survey. It is also important to become aware of issues that had not been considered when the Texas policy was developed that could possibly help others develop more or equally effective policies.

Nine of the ten FSDs supported the policy in stating that they were pleased to see that the policy included children’s health, more choices available to students, and heart smart items. Only one FSD disapproved of the policy. Three FSDs liked the policy because they said they could relate with the nutrition policy makers’ philosophy of improving the nutritional atmosphere in the schools. These comments from the FSDs about supporting the policy since it is improving the nutritional atmosphere are key components to improving and supporting change. Eight of the nine FSDs that approved of the policy later indicated complications or issues they have run into since the implementation of the policy. Some of these issues include lack of communication, having to re-clarify the policy, and teachers not being in compliance with the policy in
the classroom. Despite these issues, the one thing that the FSDs had in common is that they all indicated the student’s health is their main concern. This shows that despite communication and clarification issues, they still support the policy and are willing to work through the problems because their end goal is improved health for the students (Table 3).

The nutrition policy resulted in changes to food and beverage items that are sold in the cafeteria and vending machines, but the FSD is the one that is responsible for purchasing products. If the FSD has a positive outlook on the main goal of the policy (which two stated is the health of the children), then the items they purchase are likely to meet the criteria stated in the policy. One FSD mentioned that they are still purchasing carbonated beverages even though the policy prohibits this item from being sold. That FSD is the same FSD that disapproved of the policy. The nine other FSDs are in compliance with the policy, or are making changes to become in compliance with the policy. This position is supported by the American Dietetic Association (ADA), the Society for Nutrition Education (SNE) and the American Food Service Association (ASFSA). These professional organizations recommend that schools provide nutritious meals to students, nutrition education, and establish a nutrition policy (42).

Along with changing portion sizes, schools have incorporated fresh fruits and vegetables into their lunches, and parents had made comments to one FSD that they like the new change. The addition of fresh fruit and vegetables is becoming more common in schools. The CDC reports that 68.1% of schools offer 2 or more choices of fruit servings at lunchtime, including 100% fruit juice (43).
Students’ perceptions of school foodservice are affected by the quality of food choices, variety of food offered, flavor, and a courteous, smiling staff (41). In the present study, one FSD commented on the sales of their a la carte items being down since the implementation of the policy. In order to increase participation and to create a healthy environment for children, foodservice workers must provide the healthful food choices, and they must be social and friendly towards the students. Research suggests that changes in food preparation and choices are not adequate; rather, schools need exercise programs during school (physical education classes), and classes on nutrition and health (44). With nutrition education and physical education, students may better understand why changes are being made in the cafeteria, and might be more receptive to the changes.

Today, food advertisements are focused towards children, and we also live in a society where food is used as a reward for good behavior (45). According to a recent study, food as a reward not only encourages the consumption of high sugar and high fat foods, but also teaches children to eat, despite hunger (46). In this study, 300 policies were analyzed, and of the policies, 49% of schools denied using food as a reward. Of the 49% of schools that denied this, more than half revised their policies so food could be used in moderation as a reward (46). This shows that it is difficult for our society to reward children with items other than food. Besides using food as a reward, there are many advertisements that are geared towards children. In addition to commercials, children and adolescents are targeted by using the Internet and websites with cartoon characters or spokespersons and by making advertising part of games that are offered to children on the Internet (45). Studies suggest that marketing safeguards need to be put on advertisements that are geared towards children (47). Schools would be an ideal place to
begin advocating healthy eating since children spend such a large quantity of time in school (45).

One other concern noted by a FSD from the teachers was the birthday regulations that only allowed them to have one holiday with treats per year. This policy upset some teachers and parents because they could not bring in birthday treats, but recently the state mandated that cupcakes would be allowed as birthday treats. In 2003, Obesity Reviews published an article, which stated that it is a societal pressure for children to eat nutritionally poor foods and for powerful environmental stimuli to be focused on kids (35). One FSD had issues with not being able to allow birthday treats. This may be explained by the theory of reasoned action, which states that individuals are affected by subjective norms. This means if the FSD was being pressured by teachers, parents or students about allowing birthday treats, they may categorize that aspect of the policy as being problematic or undesirable (37). In this situation, the FSD could focus on developing treats that would be accepted by the policy, such as fruit kabobs, vegetable trays or fruit/vegetable related snacks.

A study was conducted in Houston Texas during the 2002-2003 school year, which slowly eliminated chips and desserts from snack bars, and results showed that this change decreased the student’s intake of saturated fat, sodium and sweetened beverages decreased (48). This study suggests that minor changes can make a difference in the dietary intake of students. FSDs could have a major impact on the nutrition of the children in their schools, but they must advertise and market their products. They could have taste panels during lunch hours on the new products, and ask for feedback instead of assuming that the children would never like or buy their new products.
Some researchers have found that healthful food choices offered in schools may not be enough to change children’s eating behaviors and/or habits. They state that these behaviors must be carried over at home in order for the children’s behaviors to change, but that changes in school food service can potentially help some students change eating habits (49). There are programs developed by the Center for Disease Control and Prevention, the U.S Department of Agriculture and The National Heart, Lung and Blood Institute such as *We Can, Making It Happen*, and the *School Health Index*, which were all created to help improve the health of children and improve school foodservice. Each of these programs have various competencies, including healthy eating and nutrition, as well as physical activity and school nutrition/local wellness policies, which can be used to develop a coordinated program to improve school systems (43, 14, 48).

As of 2002, 16% of U.S children ages 6-19 are overweight, which are nearly triple the number of overweight children in 1980; ten percent of children in this age group are obese (50). The Texas policy may be restrictive, but we’re living in a society where obesity is a leading cause of death, and this is one disease that is 100% preventable. In addition to obesity, the CDC reports that 51 percent of children and adolescents eat less than one serving a day of fruit per day, and 29 percent eat less than one serving a day of vegetables that are not fried (51). Since children become more independent during the middle school and high school years, they find comfort in making their own decisions. Researchers suggest that because of this, with age, students become less satisfied with school lunch because they’re seeking freedom to make their own decisions (52). Since students want choices and want to be able to make decisions on their own, FSDs should offer nutritious and healthful options for the students to purchase.
This would then allow the students to purchase items other than a school lunch, and would allow the school to profit from the sales.

In society today, obesity has become a trend that affects nearly 40 percent of girls over the age of 6, and 30 percent of boys (53). To address the obesity problem, the American Academy of Pediatrics recommends that children eat fewer fried foods and carbonated beverages, and more fresh fruits and vegetables (54). The Texas policy implements these changes in the food by not allowing deep fat fryers, eliminating carbonated beverages, and offering lower fat foods. A study by Cullen et al compared the intake of saturated fat, sugar sweetened beverages, milk and snack chips before and after the implementation of the Texas school nutrition policy (20). The study showed that the consumption of these products was affected in schools of all socioeconomic backgrounds. Milk consumption increased; sugar sweetened beverage intake decreased along with snack chip intake, and saturated fat intake. Part of the reason for this was the reduction of these products in vending machines since these products were replaced with products that are higher in nutritional value.

Lack of communication and clarity between policy makers and food service directors, policy makers and school systems, and policy makers and parents were noted by two FSDs. These FSDs claimed that they were not given sufficient notice prior to the start of the policy to make the changes necessary to be in compliance at their school(s). Another form of communication that was lacking according to three food service directors was the clarity of the policy. One food service director pointed out children did not understand the policy; therefore they had to keep re-clarifying the rules. One way to help improve communication when implementing a policy would be to form a committee
including administrators, teachers, food service director’s cafeteria employees and parents (55). This committee could discuss what the policy would be about, inclusions and exclusions, and how the policy will be enforced. The committee could then be available if anyone had questions or concerns regarding the policy.

A study by Serrano et al on the local school wellness policy in Virginia described the importance of including people from all disciplines in the development and enforcement of nutrition policies (56). The study compared several different schools within Virginia with participation from parents, student, nutrition experts, and school administrators. These individuals developed a committee responsible for the development and implementation of the nutrition policy. The schools that had representatives from each required field (parent, student, nutrition expert and school/administration faculty) had more support overall for the policy opposed to schools where less individuals were involved with the policy (56). Nutrition communication is a very important concept, which can contribute to healthful diets, increased physical activity and environmental changes (57). School nutrition policies are one way to communicate the need and importance of nutrition not only to children, but to their parents and educators as well (58).

Four food service directors believed that policy development should be comprehensive and include several different disciplines and a wellness component. Local wellness policies such as this have been implemented to help promote healthy childhood weight in schools (50). FSDs in Texas thought that the nutrition aspect was important, but that a wellness program would help children make healthier food choices, rather than only limiting what they can eat in the lunchroom.
Vice Admiral Richard H. Carmona, the former US Surgeon General supports school health and nutrition programs as important in helping students develop healthful eating and exercise behaviors (21). The American Dietetic Association (ADA), the Society for Nutrition Education (SNE) and the American School Food Service Association (ASFSA) also support this concept. Together, these three organizations developed a position paper discussing the importance of comprehensive school health programs (42). The supported comprehensive school health program includes nutrition education, a school environment that offers healthful food choices, and a community partnership.

Team Nutrition is a program that was developed by the United States Department of Agriculture to initiate a multifaceted nutrition education program for kids (59). This curriculum involves nutrition education and healthy meals in the cafeteria by combining efforts from food service directors, teachers, administrators, parents, the media and the community. Team Nutrition promotes a healthy school environment by supporting healthy eating and physical activity (59). These concepts are similar to what four of the nine FSDs discussed in their interviews. The advice from the FSDs and the support from the ADA, SNE, ASFSA, and USDA could be fundamental in helping other states develop nutrition policies of their own.

Seven of the FSDs indicated that there were no negative financial implications as a result of the nutrition policy. Three FSDs indicated issues with funds available to buy new equipment for their kitchen since all food had to be baked instead of fried. Although one school did note that they didn’t know where they would get the money to buy the new equipment, others already had the equipment, or could suffice with what they had
(other than fryers) in order to cook the food. The majority of schools in the 27 states that were surveyed by the CDC bring in additional money by allowing students to purchase food and beverages from vending machines (60). Although vending purchases can be a main source of income for the schools, the CDC recommends that schools replace the high-fat and high-sugar foods (FMNV) with foods that are more nutritionally sounds. This appears to be the case in Texas as FSDs indicated that carbonated beverages were replaced with 100% fruit juice, water, milk and sports drinks.

The food service director’s main concerns are selling their products to the children, and making the children happy with the choices that are available to them in the cafeteria (41). According to the Center for Disease Control and Prevention’s School Health Policies and Programs Study (SHPPS) in 2000, 50.7% of schools leave the food service staff to plan menus, and 43.6% of schools let them also decide what foods to order (51). Since nearly 50% of the food service staff are planning menus and purchasing food for meals, they would likely hear the advantages and disadvantages of a policy since they deal directly with the food. Of the schools who have the food staff plan and purchase for weekly menus, 63% of them base their menus on food choices that are preferred by students. Only 29% of schools base the menu on Nutrient Standard Menu Planning according to healthful foods (51).

The most common educational background of the FSDs was a high school degree with some college or a bachelors of arts, which did not include nutrition courses and/or a degree in nutrition. This background could affect the food service directors’ responses because if they have a business background they may be more focused on money instead of nutrition. Someone with a nutrition background might be focused more towards the
well being of the children. Educational background is an external variable that could influence or change the food service directors’ beliefs or opinions of the policy. However, this does not mean that those with a business background think the health of their students is insignificant.

This study was one of two parts to a larger study. The other portion of this study interviewed principals within the same Texas schools (61). The survey questions were similar but geared more towards the roles of principals. The general focus of the principals’ responses to the policy was that half of the twenty-four principals liked the policy; four thought the policy was ineffective, two did not like it, and three were neutral about the policy (61). A study conducted in Minnesota of school principals showed that 65% of the principals interviewed believed that having a school nutrition policy was important, but only 32% of the schools actually had a policy in place (62). Principals in this study also reported having positive attitudes about providing healthful foods and beverages to their students, but 98% of the schools have soft drink vending machines (62). Nutrition policies could be a foundation for these principals to go by in order to implement healthful changes and foods in their schools.

There were a few limitations to this study, with the main limitation being the number of participants. One way to improve participation could be to send out the surveys through the mail to more schools. Another way to include more participants in the study would be to randomly choose another FSD from the districts where the first FSD declined. We could have allowed the food service directors to fill out the survey on their own time and mail it back, instead of having to stop their work to participate in a ten to fifteen minute survey. The disadvantage to this would be that it would no longer be an
in-depth interview. An in-depth interview allows the interviewee to explain why they feel the way they do, instead of just answering a question and moving on to the next without any further explanation. The sample size and study design of this study does not allow us to generalize but does provide valuable information from the perspective of those most familiar with the implementation of school nutrition policies.

Overall, this study showed that FSDs in Texas were receptive to the nutrition policy, and despite having to change cooking methods and purchase new equipment, the schools were still not negatively impacted. The study also showed that communication between all disciplines involved in a school is crucial to the implementation and acceptance of a new policy. If FSDs, principals, teachers, administrators and parents are all involved in the development and implementation of a nutrition policy, it is thought that implementing the policy would go more smoothly. The FSDs were receptive to the changes that were made related to the policy since it improved the nutritional quality of foods served and could potentially benefit the student’s health.
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APPENDIX A. TEXAS PUBLIC SCHOOL NUTRITION POLICY
Texas Public School Nutrition Policy
(Updated to include all clarifications and exemptions)
Texas Department of Agriculture
Effective August 1, 2004

In March 2004, the Texas Department of Agriculture (TDA) issued the Texas Public School Nutrition Policy to promote a healthier environment in schools. This policy was the result of a collaborative effort utilizing the expertise from nationally recognized professionals who graciously lent their time and knowledge to this important effort. The response to TDA’s initiatives to improve the nutrition environments in schools has been overwhelmingly positive. We have received numerous comments and requests for explanations from school administrators, food service personnel, professional associations, parents, and teachers. In response to these comments and suggestions, we have revised the policy to be clearer and to provide schools with more flexibility in the implementation and phase-in dates.

TDA will continue to work closely with schools, communities, health organizations and other groups to provide assistance in this important effort. The support of school boards, administrators and parents across the state is very important to achieve the goal of improving the health of our children.

I. INTRODUCTION

Effective August 1, 2004, all Texas public schools participating in the federal child nutrition programs (National School Lunch Program, School Breakfast Program and the After School Snack Program) must comply with the nutrition policies outlined below. These policies are intended to supplement federal policies defined by the U.S. Department of Agriculture’s Food and Nutrition Services.

Any questions or concerns regarding the Texas Public School Nutrition Policy may be directed to:

Texas Department of Agriculture
Food and Nutrition Division
P.O. Box 12847, Austin, Texas 78711
(888) TEX KIDS
or
healthykids@agr.state.tx.us.

II. DEFINITIONS

The following definitions apply to the Texas Public School Nutrition Policy:

A. A La Carte: Refers to individually priced food items provided by the school food service department. These items may or may not be part of the reimbursable meal.
B. **Competitive Foods:** Foods and beverages sold or made available to students that compete with the school’s operation of the National School Lunch Program, School Breakfast Program and/or After School Snack Program. This definition includes, but is not limited to, food and beverages sold or provided in vending machines, in school stores or as part of school fundraisers. School fundraisers include food sold by school administrators or staff (principals, coaches, teachers, etc.), students or student groups, parents or parent groups, or any other person, company or organization.

C. **FMNV:** Foods of Minimal Nutritional Value. Refers to the four categories of foods and beverages (soda water, water ices, chewing gum, and certain candies) that are restricted by the U. S. Department of Agriculture under the child nutrition programs. (See Section VI.)

D. **Food Service:** Refers to the school’s operation of the National School Program, School Breakfast Program and After School Snack Programs and includes all food service operations conducted by the school principally for the benefit of schoolchildren, all of the revenue from which is used solely for the operation or improvement of such food services.

E. **Fried Foods:** Foods that are cooked by total immersion into hot oil or other fat, commonly referred to as “deep fat frying.” This definition does not include foods that are stir-fried or sautéed.

F. **Fruit or Vegetable Drink:** Beverages labeled as containing fruit or vegetable juice in amounts less than 100 percent

G. **Fruit or Vegetable Juice:** Beverages labeled as containing 100 percent fruit or vegetable juice.

H. **School Day:** The school day begins with the start of the first breakfast period and continues until the end of the last instruction period of the day (last bell).

I. **School Meals:** Meals provided under the National School Lunch Program, School Breakfast Program and After School Snack Program for which schools receive reimbursement in accordance with all applicable federal regulations, policies, instructions and guidelines.

J. **Snacks:** Defined as either competitive foods or a la carte (see definitions above), depending on whether or not they are provided by the school food service department.

K. **Trans Fat:** Occurs in foods when manufacturers use hydrogenation, a process in which hydrogen is added to vegetable oil to turn the oil into a more
solid (saturated) fat. Trans fats may be found in such foods as margarine, crackers, candies, cookies, snack foods, fried foods, baked goods, salad dressings and other processed foods.

IV.
MIDDLE/JUNIOR HIGH SCHOOLS
For purposes of this policy, a middle school campus is defined as a campus containing grades 6, 7 and 8. A junior high school campus may contain either grades 7 and 8, or grades 7, 8 and 9. K-12 schools may follow the policy requirements designated for middle and junior high schools.

A.
Foods of Minimal Nutritional Value (FMNV) Policy
Middle school and junior high school campuses may not serve or provide access for students to FMNV and all other forms of candy at any time anywhere on school premises until after the end of the last lunch period. For exemptions and a listing of foods and beverages restricted by the FMNV policy, see Section VI (below).

B.
Nutrition Standards
The following specific nutrition standards pertain to all foods and beverages served or made available in school meals, a la carte and competitive foods to students on middle and junior high school campuses.

1.
Fats and Fried Foods:

a) Schools and other vendors may not serve food items containing more than 28 grams of fat per serving size more than twice per week. The goal is to reduce this to 23 grams of fat per serving size by the start of the 2006-07 school year.

b) French fries and other fried potato products must not exceed 3 ounces per serving, may not be offered more than three times per week, and students may only purchase one serving at a time. (This does not pertain to potato chips, which are mentioned specifically in “2. Portion Sizes,” below.) We recommend that all such products be baked instead of fried.

c) Baked potato products (wedges, slices, whole, new potatoes) that are produced from raw potatoes and have not been pre-fried, flash-fried or deep fat-fried in any way may be served without restriction.

d) Schools should eliminate frying as a method of on-site preparation for foods served as part of school meals, a la carte, snack lines and competitive foods. This policy should be implemented by the 2005-06 school year in schools that do not need to make equipment changes or facility modifications to do so. A transition period for implementation is allowed for schools needing to make equipment changes or facility modifications, but all schools must be in compliance by the 2009-10 school year.

e) Foods that have been flash-fried by the manufacturer may be
served but should be baked or heated by another method.

f) Beginning with the 2005-06 school year, schools should include a request for trans fat information in all product specifications.

Beginning with the 2007-08 school year, schools should reduce the purchase of any products containing trans fats. (Federal labeling of trans fats on all food products is required by January 1, 2006.)

2. **Portion Sizes:**

a) The following maximum portion size restrictions pertain to all foods and beverages served or made available to students on school campuses with the exception of school meals, which are governed by USDA regulations.

<table>
<thead>
<tr>
<th>Food or Beverage</th>
<th>Portion Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chips (regular)</td>
<td>1 ounce</td>
</tr>
<tr>
<td>Chips (baked or no more than 7.5 grams of fat per bag), crackers, popcorn, cereal, trail mix, nuts, seeds, dried fruit, jerkyand pretzels.</td>
<td>1.5 ounces</td>
</tr>
<tr>
<td>Cookies/cereal bars.</td>
<td>2 ounces</td>
</tr>
<tr>
<td>Bakery items (e.g., pastries, muffins). (This excludes items that count as two-bread components served/sold only at breakfast.)</td>
<td>3 ounces</td>
</tr>
<tr>
<td>Frozen desserts, ice cream, pudding and jello.</td>
<td>4 ounces</td>
</tr>
<tr>
<td>Yogurt.</td>
<td>8 ounces</td>
</tr>
<tr>
<td>Whole milk, flavored or unflavored. (Flavored milks may contain no more than 30 grams total sugar per 8 ounce serving.)</td>
<td>8 ounces</td>
</tr>
<tr>
<td>Reduced fat milk (2 percent or less), flavored or unflavored. (Flavored milks may contain no more than 30 grams total sugar per 8 ounce serving.)</td>
<td>16 ounces</td>
</tr>
<tr>
<td>Beverages (other than milk) and those restricted as FMNVs may contain no more than 30 grams total sugar per 8 ounce serving.</td>
<td>12 ounces</td>
</tr>
<tr>
<td>No limit on non-carbonated, unflavored bottled water.</td>
<td>1.5 ounces</td>
</tr>
<tr>
<td>Candy bars and packaged candies.</td>
<td></td>
</tr>
</tbody>
</table>
Frozen fruit slushes (must contain a minimum of 50 percent fruit juice).
12 ounces
b) The maximum portion size restrictions provided by this policy do not apply where existing contracts require the vending of larger volume containers or package sizes. Contracts and contract renewals executed after March 3, 2004, must expressly comply with this policy.

3. Other:
   a) Fruit and/or vegetables should be offered daily on all points of service. Fruits and vegetables should be fresh whenever possible. Frozen and canned fruits should be packed in natural juice, water or light syrup.
   b) Schools must offer 2 percent, 1 percent or skim milk at all points where milk is served.
   c) Schools serving chips should use reduced fat (no more than 5 grams of fat per ounce) or baked varieties whenever possible.

C. Competitive Foods
A middle or junior high school campus may not serve competitive foods (or provide access to them through direct or indirect sales) to students anywhere on school premises during meal periods. This does not pertain to food items made available by the school food service department. The competitive foods included in this policy do not include FMNVs, which are not allowed until after the last lunch period.

VI. FOODS OF MINIMAL NUTRITIONAL VALUE (FMNV)
Federal regulations prohibit the sale of certain foods, determined to be of minimal nutritional value, in the foodservice area during meal periods.

A. Restricted Foods
Foods and beverages that are restricted from sale to students are classified in the following four categories:

1. Soda Water: Any carbonated beverage. No product shall be excluded from this definition because it contains discrete nutrients added to the food such as vitamins, minerals and protein.

2. Water Ices: Any frozen, sweetened water such as “...sicles” and flavored ice with the exception of products that contain fruit or fruit juice.

3. Chewing Gum: Any flavored products from natural or synthetic gums and other ingredients that form an insoluble mass for chewing.

4.
**Certain Candies:** Any processed foods made predominantly from sweeteners or artificial sweeteners with a variety of minor ingredients that characterize the following types:

a) **Hard Candy:** A product made predominantly from sugar (sucrose) and corn syrup that may be flavored and colored, and is characterized by a hard, brittle texture. Includes such items as sour balls, lollipops, fruit balls, candy sticks, starlight mints, after dinner mints, jaw breakers, sugar wafers, rock candy, cinnamon candies, breath mints and cough drops.

b) **Jellies and Gums:** A mixture of carbohydrates that are combined to form a stable gelatinous system of jellylike character and are generally flavored and colored, and include gum drops, jelly beans, jellied and fruit-flavored slices.

c) **Marshmallow Candies:** An aerated confection composed of sugar, corn syrup, invert sugar, 20 percent water, and gelatin or egg white to which flavors and colors may be added.

d) **Fondant:** A product consisting of microscopic-sized sugar crystals that are separated by a thin film of sugar and/or invert sugar in solution such as candy corn or soft mints.

e) **Licorice:** A product made predominantly from sugar and corn syrup that is flavored with an extract made from the licorice root.

f) **Spun Candy:** A product that is made from sugar that has been boiled at high temperature and spun at a high speed in a special machine.

g) **Candy Coated Popcorn:** Popcorn that is coated with a mixture made predominantly from sugar and corn syrup.

Note: USDA has approved exceptions for certain products included in the above categories. See TDA, Food and Nutrition Division, Administrators Reference Manual, for the current list of these exemptions.

B. **FMNV and Policy Exemptions**

1. **School Nurses:** This policy does not apply to school nurses using FMNVs during the course of providing health care to individual students.

2. **Accommodating Students with Special Needs:** Special Needs Students whose Individualized Education Program (IEP) plan indicates the use of an FMNV or candy for behavior modification (or other suitable need) may be given FMNV or candy items.

3. **School Events:** Students may be given FMNV, candy items or other restricted foods during the school day for up to three different events each school year to be determined by campus. The exempted events must be approved by a school official. During these events, FMNV
may not be given during meal times in the areas where school meals are being served or consumed, and regular meal service (breakfast and lunch) must continue to be available to all students in accordance with federal regulations.

4. **TAKS Test Days:** Schools and parents may provide one additional nutritious snack per day for students taking the TAKS tests. The snack must comply with the fat and sugar limits of the Public School Nutrition Policy and may not contain any foods of minimal nutritional value or consist of candy, chips or dessert type items (cookies, cakes, cupcakes, pudding, ice cream or frozen desserts, etc.). Please refer to the attached revised suggestions for nutritious snacks.

5. **Instructional Use of Food in Classroom:** For instructional purposes, teachers may use foods as long as the food items are not considered FMNV or candy. Students may consume food prepared in class for instructional purposes. However, this should be on an occasional basis, and food may not be provided or sold to other students or classes. Food provided for students as part of a class or school cultural heritage event for instructional or enrichment purposes would be exempt from the policy. However, FMNV may not be served during meal periods in the areas where school meals are being served or consumed, and regular meal service (breakfast and lunch) must continue to be available to all students.

6. **Field Trips:** School-approved field trips are exempt from the nutrition policy. A school official must approve the dates and purposes of the field trips in advance.

7. **Athletic, UIL, Band and Other Competitions:** The nutrition policy does not apply to students who leave campus to travel to athletic, UIL, band or other competitions. The school day is considered to have ended for these students. School activities, athletic functions, etc. that occur after the normal school day are not covered by the policy.

C. This policy does not restrict what parents may provide for their own child’s lunch or snacks. Parents may provide FMNV or candy items for their own child’s consumption, but they may not provide restricted items to other children at school. A school may adopt a more restrictive rule, however, as local policy.

**VII. HEALTHY NUTRITION ENVIRONMENT**

All school cafeterias and dining areas should be healthy nutrition environments. Texas public schools participating in federal child nutrition programs should ensure that all students have daily access to school meals (breakfast and lunch). Schools should not establish policies, class schedules, bus schedules or other barriers that directly or indirectly restrict meal access. Adequate time should be allowed for students to receive and consume meals, and
cafeterias should provide a pleasant dining environment. The minimum recommended eating time for each student after being served is at least 10 minutes for breakfast and 20 minutes for lunch. We encourage all school districts to adhere closely to the coordinated school health and physical activity components of the Texas Education Code. It is strongly recommended that PE or recess should be scheduled before lunch whenever possible.

**VIII. COMPLIANCE AND PENALTIES**

The Texas Department of Agriculture (TDA) administers the National School Lunch Program, School Breakfast Program and After School Snack Program through its Food and Nutrition Division. Responsibilities include processing claims for reimbursement, providing special marketing projects and procurement assistance to promote more nutritious eating habits, conducting on-site compliance monitoring and coordinating training through the 20 regional Education Service Centers. TDA will aggressively enforce and diligently monitor the Texas School Nutrition Policy to ensure compliance. When violations of this policy are noted, TDA will disallow all meal reimbursement for the day and require the school to reimburse the food service account for the lost reimbursement. A documented corrective action plan will be required and will be monitored diligently to ensure continued compliance.
APPENDIX B. INDIVIDUAL STATE NUTRITION POLICIES
## Individual State Nutrition Policies

<table>
<thead>
<tr>
<th>STATE</th>
<th>POLICY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alabama</strong></td>
<td>The sale of foods of minimal nutritional value during meal service times will continue to be prohibited. Schools are required to restrict student access to concession, extra sales, vending and fundraisers that are in direct competition with the Child Nutrition Program during meal services anywhere on campus. If income from such sales occurs, the revenue is required to be deposited into the Child Nutrition account.</td>
</tr>
<tr>
<td><strong>Alaska</strong></td>
<td>USDA Regulations</td>
</tr>
<tr>
<td><strong>Arizona</strong></td>
<td>USDA Regulations</td>
</tr>
<tr>
<td><strong>Arkansas</strong></td>
<td>USDA Regulations</td>
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</tbody>
</table>
| **California** | The law currently in effect, requires that 50% of the items, other than foods reimbursed under federal law, offered for sale each school day at any schoolsite by any entity or organization during regular school hours be selected from a prescribed list of foods. 

In 2002, a new law (SB 19) was passed. The law will become operative Jan. 2004 if funds are appropriated in Budget Act of 2003 for the purpose of increasing State meal reimbursements by ten cents for all meals served, including paid, free, and reduced price meals. Establishes nutrition standards at elementary schools:

1) The only food that may be sold to pupils during breakfast and lunch periods is food that is sold as a full meal. Fruit, non-fried vegetables, legumes, beverages, dairy products, or grain products may be sold as individual food items if they meet the following nutrition standards:
   - Not more than 35% total calories from fat (excluding nuts and seeds)
   - Not more than 10% total calories from saturated fat
   - Not more than 35% total weight from sugar (excluding fruits and vegetables)
2) The only beverages that can be sold are water, milk, and juice that is at least 50% fruit juice with no added sweeteners.
3) Foods sold as part of fundraising are exempted from the above standards if sold off campus or one-half hour after the end of the school day.

In Middle Schools:
1) No carbonated beverage allowed from ½ hour before school to end of the last lunch period.

In HighSchools: |
<table>
<thead>
<tr>
<th>State</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>No competitive foods offered on campus from ½ hour prior to until ½ hour after the last regular breakfast or lunch. This may be waived for mechanically-vended beverages in senior high. Federal regulations for FMNV cannot be waived for any grade level.</td>
</tr>
<tr>
<td>Connecticut</td>
<td>No extra food items anywhere on campus from ½ hour before and after any state or federally subsidized milk or food service program. Extra foods means tea (including iced tea), coffee, soft drinks, and candy. Income from sales of any foods served on campus during this time must accrue to the food service account.</td>
</tr>
<tr>
<td>Delaware</td>
<td>USDA Regulations. (Has recommended policies.)</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Florida</td>
<td>No competitive foods in elementary schools. No competitive foods sold until one hour after last lunch period in secondary schools. However, in high schools, the sale of carbonated beverages is allowed at all times if a 100% fruit juice is sold at each location where the carbonated beverages are sold. The location cannot be where breakfast or lunch are served or eaten. 100% juice may be sold all times during the day at any location.</td>
</tr>
<tr>
<td>Georgia</td>
<td>No foods of minimal nutritional value in elementary school until last lunch group is scheduled to return to class. In other schools, no foods of minimum nutritional value in dining, serving or kitchen areas during mealtime.</td>
</tr>
<tr>
<td>Guam</td>
<td>The sale of food in all elementary and secondary schools shall be limited to the School Breakfast Program, School Lunch Program and approved cafeteria supplementary food items. Schools shall not permit anywhere on campus the sale of the other foods from the beginning of the school day to the ending of the school day except certain beverages through vending machines. These beverages may not be sold during meal serving periods. (At least one machine shall vend bottled water. Coffee and coffee-based beverages are not allowed.) Vending machines on elementary campuses should not be accessible to students.</td>
</tr>
<tr>
<td>Hawaii</td>
<td>No competitive foods in elementary schools during regular breakfast and lunch periods. Competitive foods include all confections, candy, potato chips, carbonated beverages, fruit drinks containing less than 50% pure fruit juice, tea, coffee, and any other foods or beverages designated as such by the State Board of Education. Income from sale of all food and beverages provided in any dining or serving area during the designated mealtime.</td>
</tr>
</tbody>
</table>
breakfast and lunch periods shall accrue to the food service account.

<table>
<thead>
<tr>
<th>State</th>
<th>Regulations</th>
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</thead>
<tbody>
<tr>
<td>Indiana</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Iowa</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Kansas</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Kentucky</td>
<td>No competitive foods on campus until ½ hour after last lunch period.</td>
</tr>
<tr>
<td>Louisiana</td>
<td>Competitive foods are allowed in Grade K-6 before the end of the last lunch period and in Grades 7-12 before the last 10 minutes of each lunch period only if income accrued to the school foodservice account and expended only for Child Nutrition Program purposes. A la carte meal service is prohibited. However, extra items may be sold only to those who have received a complete meal and the items must meet component requirements as defined by Enhanced Food-based Menu regulations. The only exceptions are milkshakes, yogurt, frozen yogurt, ice cream, and ice milk. Full-strength juice, milk, and bottled water (unflavored with no additives) may be sold at any time during the day to anyone, whether or not they have purchased a meal.</td>
</tr>
<tr>
<td>Maine</td>
<td>Only the School Foodservice Program can sell food/beverages (that exceed the 5% minimal nutritional value per 100 calories rule) on campus during the school day and profits must accrue to the foodservice program. However, local school boards may establish, by policy, a process whereby a school or approved student organization is allowed to benefit from the sale of such foods and beverages.</td>
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<tr>
<td>Mariana Islands</td>
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<tr>
<td>Maryland</td>
<td>No foods of minimal nutritional value until the end of the last lunch period.</td>
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<tr>
<td>Massachusetts</td>
<td>USDA Regulations</td>
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<tr>
<td>Michigan</td>
<td>USDA Regulations</td>
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<tr>
<td>Minnesota</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Mississippi</td>
<td>No food is to be sold on campus for one hour before breakfast or lunch and until the end of either serving period. School Foodservice shall sell only those foods that are components of the approved Federal meal patterns being served (or milk products). With the exception of milk products, a student may purchase the individual components of the meal only if the full meal also is being purchased.</td>
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<tr>
<td>Missouri</td>
<td>USDA Regulations</td>
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<tr>
<td>Montana</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Nebraska</td>
<td>No competitive foods anywhere on campus from ½ hour before until ½ hour after breakfast or lunch.</td>
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<tr>
<td>State</td>
<td>USDA Regulations</td>
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<tr>
<td>Nevada</td>
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<tr>
<td>New Hampshire</td>
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<tr>
<td>New Jersey</td>
<td>No food of minimal nutritional value on campus until the end of the last lunch period. Funds from sale of foods and beverages during the hours of operation of the school lunch and breakfast programs must accrue to the foodservice account.</td>
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<tr>
<td>New Mexico</td>
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<tr>
<td>New York</td>
<td>From the beginning of the school day until the end of the last scheduled meal period, no sweetened soda water, no chewing gum, no candy including hard candy, jellies, gums, marshmallow candies, fondant, licorice, spun candy and candy coated popcorn, and no water ices except those which contain fruit or fruit juices, shall be sold in any public school within the State.</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Competitive food sales are allowed in the lunchroom or its general environs if the profits accrue to school foodservice and used solely for the school meal programs. Schools may sell extra food items after the established lunch hour is over, only with the approval of the local board of education. Local board approval is also needed to sell soft drinks to students so long as soft drinks are not sold during the lunch period, at elementary schools, or contrary to the requirements of the National School Lunch Program. A la carte foods may not include food of minimum nutritional value.</td>
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<tr>
<td>North Dakota</td>
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<td>Ohio</td>
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<td>Oklahoma</td>
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<td>Oregon</td>
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<td>Oregon</td>
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<td>Pennsylvania</td>
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<td>Puerto Rico</td>
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<td>Rhode Island</td>
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<td>Samoa</td>
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<td>South Carolina</td>
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<tr>
<td>South Dakota</td>
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<tr>
<td>Tennessee</td>
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<tr>
<td>Texas</td>
<td>Schools may not serve competitive foods (or provide access to them through direct or indirect sales) to students anywhere on school premises throughout the school day until the end of the last scheduled class. This</td>
</tr>
</tbody>
</table>
does not pertain to food items made available by the school food service department. Elementary schools are allowed one nutritious snack per school day under the teacher’s supervision. All foods sold during lunch periods must comply with the specific guidelines posted in the 2004-2005 Texas Public School Nutrition Policy handbook.

<table>
<thead>
<tr>
<th>State</th>
<th>Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Vermont</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Virginia</td>
<td>Any food or beverage sold (including a la carte) in Virginia schools from 6:00 a.m. until the end of breakfast period, and during the lunch period, must meet the following nutrition standard. The foods and beverages sold must either be a recognized component of the food based meal pattern or must contain 5% of the Daily Value, per serving or per 100 calories, of at least one of these eight essential nutrients: iron, calcium, protein, vitamin A, vitamin C, niacin, thiamine, or riboflavin. The money from the sale of food or drink during the protected time periods must accrue to the school nutrition program account. Iced or hot coffee or tea may not be sold to students; non-carbonated water may be sold.</td>
</tr>
<tr>
<td>Virgin Islands</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>Washington</td>
<td>USDA Regulations</td>
</tr>
<tr>
<td>West Virginia</td>
<td>No foods of minimal nutritional value may be served or sold to students during the instructional day, except that county boards may permit the sale of soft drinks in county high schools except during breakfast and lunch periods. Revenues accrue to the principal for purchase of school supplies and to the faculty senate for allocation. The state has nutritional standards for foods served in schools during the day including: 1) no foods containing 40% or more sugar by weight, 2) any juice or juice product must contain a minimum of 20% real juice, and 3) all “other” foods shall reflect the Dietary Guidelines for fat by limiting the number of fat grams to not more than 8 per one ounce serving, or meet the USDA standard for a lunch component. Only meal components may be sold as a la carte for breakfast, and only fluid milk, milkshakes and bottled water (100% natural spring water containing no additives) may be served as a la carte items for lunch.</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>USDA Regulations</td>
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<tr>
<td>Wyoming</td>
<td>USDA Regulations</td>
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</tbody>
</table>
APPENDIX C. SURVEY FOR FOOD SERVICE DIRECTORS IN TEXAS
Texas Survey

Foodservice Director Survey

Process Information

Interviewer:
School Region:
Random number of school within region:
School Name:
Foodservice Directors Name:

To set appointment:
Date/time 1st Call: __________ 2nd Call: __________ 3rd Call: __________

Spoke with (name): 1st Call: __________ 2nd Call: __________ 3rd Call: __________

Date/time set to speak with Foodservice Director:

Notes/comments (if more than one call is needed for contact with foodservice director or to set an appointment please indicate the reason, i.e., food service director sets own schedule and is not able to come to the phone now):

To conduct interview:
Date/time 1st Call: __________ 2nd Call: __________ 3rd Call: __________

Spoke with (name): 1st Call: __________ 2nd Call: __________ 3rd Call: __________

Notes/comments (if more than one call is needed for interview please indicate the reason, i.e., foodservice director not there due to emergency, etc):

*If refusal from foodservice director: indicate reason:
   _____ Not interested in participating in survey
   _____ No time for survey
   _____ Foodservice Director not available (out of town, etc)
   _____ Other, specify

*Please keep track of refusals so we can calculate response rate.

Script for contact with foodservice director:

Record start time/date:

(use if needed:) Am I speaking with

Hello (say foodservice directors name here if you have it). My name is (give your first and last name), and I’m calling from (Bowling Green State University or the University of Toledo) in Ohio.
I would like to get your reactions to the newly established nutrition policy in Texas public schools. It will take 15-20 minutes.

The result of the survey will be kept confidential and anonymous.

Do I have your permission to carry out the interview with you? If so please state your name and indicate that you agree to participate. (PAUSE for response)

For research purposes only, our conversation will be taped. [TURN TAPE ON].

Last year, the Texas department of agriculture recently established new policies regarding nutrition in Texas Public - Middle and Junior High Schools in which a school:

- may not provide food of minimal nutritional value, candy or carbonated beverages until after the last lunch period.
- The policy also states that the school may not allow competitive foods during meal periods and that the serving size of fried potato products cannot exceed 3 ounces and may only be served three times a week.

1. What is your opinion the Texas School Nutrition Policy?

2. What issues have you encountered since the implementation of the policy, if any?

3. What specific types of changes had to be made at your school in order to follow the nutrition policy?

4. What comments have you heard from students?
   a. If any, how many students would you say you have heard from?

5. Do you know if students are substituting previously purchased items with items brought from home? (food behaviors and social behaviors)

6. Have you received any feedback from parents about the new regulations?
   a. Would you say you have heard from a lot of parents, a few, or none?

7. Have you received any feedback from teachers about the nutrition policy?

8. Do you know if there has been a financial impact on the school due to the new policy?

9. If you had the opportunity to change the policy, would you change anything?
a. If yes, what recommendations would you have?

10. What recommendations would you make to those in other states who would like to establish a similar policy?

11. What is your job title?

12. How many people do you supervise?

13. Are you a registered dietitian?

14. How many years have you been in this position?

15. Are there aspects of your work that have become more or less satisfying since the implementation of the new policy?

Closing Script:
Is there anyone else you think is more likely to hear complaints or praises of the new policy that we should call?
If so, can you recommend any names and/or contact numbers?

Thank you for participating in this survey. Your information is greatly appreciated, and will help tremendously in our study.
APPENDIX D. TEXAS EDUCATION REGIONS BY GEOGRAPHIC REGION
Texas Education Regions by Geographic Region (available at http://www.tea.state.tx.us/perfreport/snapshot/2004/region.srch.html)