QUALITATIVE STUDY OF THE IMPLICATIONS OF THE RECENT TEXAS SCHOOL NUTRITION POLICY FROM THE PRINCIPAL’S PERSPECTIVE

Rima S. Deek

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Committee:
Rebecca Pobocik, Advisor
Stephen Roberts
Dawn Hentges
ABSTRACT

Rebecca Pobocik, Advisor

There is no national School Nutrition Policy in the United States, which has lead to the need for each state to develop its own school nutrition policy. Establishing a School Nutrition Policy can limit the poor nutritional habits children today have and therefore, alleviate the escalating problem of childhood overweight and obesity. A good example of such a policy is the Texas School Nutrition Policy, which was implemented through the Department of Agriculture in 2004. The objectives of this qualitative study were to determine the reaction to the implementation of the first year of the Texas School Nutrition Policy as perceived by the school principals, determine the advantages of implementing a school nutrition policy, determine the barriers of implementing a school nutrition policy in Texas and develop recommendations beneficial to states that have not yet implemented a school nutrition policy. Twenty three school principals and one assistant principal from Texas were interviewed by phone from the regions that have implemented the Texas School Nutrition Policy during the 2004 - 2005 academic year using a semi-structured question format. The interviews were audiotaped then transcribed verbatim. The data were analyzed by dividing responses into categories and then developing relationships between these categories. Major themes that emerged from the analysis were: the role of parent verses role of school in promoting healthful food choices among the children; school practices that changed as a result of the policy; and how the school nutrition policy affected principals, teachers, and students’ practices. Nutrition intervention programs targeting parents and aiming at increasing their knowledge in food and nutrition in order to positively influence their children’s behaviors are recommended. Future research should focus on how
parents shape children’s eating habits compared to school and how the nutritional status of children in Texas has changed since the implementation of the school nutrition policy.
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CHAPTER 1. INTRODUCTION

School Nutrition Policies

Healthy eating behaviors among children and adolescents can affect the child’s overall health; this includes their physical, intellectual, mental and developmental health. Short term health effects can be observed in certain diseases or disorders, such as anemia, obesity, sleep apnea and eating disorders in addition to some long term health effects, such as type 2 diabetes mellitus, cancer and coronary heart disease due to high cholesterol and high blood pressure (Torgan, 2002; CDC, 1996). School health programs play a vital role in promoting the children’s health by providing them with the nutritional education, social and environmental background they need in order to embrace some long term healthy eating and physical activity behaviors.

Although the majority of schools in the United States have adapted the School Meal Initiative, which includes the National School Breakfast and Lunch programs (NSBP, NSLP) administered under the United States Department of Agriculture (USDA, 2001), these programs are not as extensive as a School Nutrition Policy. Nutrient standards applied on the School Meal Initiative meals do not apply to a la carte foods, or foods and beverages sold in snack bars, vending machines, through fundraising activities, or foods given as reward by teachers or school administrators (USDA, 2001). The School Meal Initiative should be compliant with the Dietary Guidelines for Americans, and the National School Lunch programs should provide one third of the Recommended Dietary Allowances (RDA) of protein, Vitamin A, Vitamin C, iron, calcium, and calories from the meal, based on the appropriate age/grade group. The National School Breakfast program includes the same standards for the previous nutrients, with the calories
providing one fourth of the RDA for the specific age group. Meals offered to the students should provide no more than 30 percent of child’s calories from fat, and less than 10 percent from saturated fat (USDA, 2001).

The intent of a School Nutrition Policy (SNP), on the other hand, is to develop and implement a nutrition education program with the support of a school environment sustaining this long term goal of ‘better food choices and behaviors’ among children. A SNP addresses nutrition education, school lunch, breakfast, snacks and classroom parties. In addition, SNP addresses foods sold in vending machines, school stores, and for the purpose of fundraising and sports activities, or any entity that sells food to students on school premises and during the school day is addressed in a SNP. All of these play a vital role in conveying some healthy nutrition practices for students to follow, with the major support of a school environment allowing students the access of healthy foods and preventing any action that might threaten the integrity of this school nutrition program (CDC, 1996).

A comprehensive policy requires the addressing of seven vital components which affect this SNP. These components include a curriculum for nutrition education, instruction for students, integration of school foodservice and nutrition education, training school staff, family and community involvement, and finally program evaluation (CDC, 2004a; CDC 1996). The Texas SNP provides a good example of a comprehensive framework used in the implementation of the previous guidelines. This policy has been in effect since August 1, 2004 and is an example to other areas in the United States considering the implementation of a State SNP.
Statement of the Problem

There is no national School Nutrition Policy (SNP) in the United States, which has lead to the need for each state to develop its own school nutrition policy. Establishing a SNP can limit the poor nutritional habits children today have and therefore, alleviate the escalating problem of childhood overweight and obesity. A good example of such a policy is the Texas School Nutrition Policy (Appendix A), which has been implemented through the Department of Agriculture. What was the reaction to the implementation of the first year of the Texas School Nutrition Policy? What are the obstacles associated with the Texas SNP?

Objectives of the Study

The objectives of this study were to:

- Determine the reaction to the implementation of the first year of the Texas School Nutrition Policy at the middle school level as perceived by the school principals.
- Determine the advantages of implementing a school nutrition policy.
- Determine the barriers of implementing a school nutrition policy in Texas.
- Develop recommendations, beneficial to areas that have not yet implemented a school nutrition policy.

Definition of Terms

The following terms will be repeated throughout this proposal; definitions from A-J have been obtained verbatim from The Texas School Nutrition Policy, revised June 1, 2004, for clarification purposes:

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.
CHAPTER II. REVIEW OF LITERATURE

The Epidemic of Obesity among Adults and Children in the United States

Obesity is one of the diseases of the 21st century; it has been consistently rising despite many worldwide efforts to prevent this disease (WHO, 2002). During the past twenty years, obesity has risen at an epidemic rate in the United States. One of the national health objectives for the year 2010 is to reduce the prevalence of obesity among adults to less than 15%, however, research indicates that the situation is worsening rather than improving (CDC, 2004b). The World Health Organization (WHO) has declared overweight as one of the top ten health risks in the world and one of the top five in developed countries (WHO, 2002).

Body Mass Index (BMI) is a mathematical calculation used to determine whether a person is overweight; it is calculated by dividing a person's body weight in kilograms by their height in meters squared (weight (kg) / height (m)²) (American Obesity Association (AOA), 2005). Individuals with a BMI of 25 to 29.9 are considered overweight, while individuals with a BMI of 30 or more are considered obese (AOA, 2005).

As clarified by the results of the 1999-2002 National Health and Nutrition Examination Survey (NHANES) survey, 65% of U.S. adults are either overweight or obese based on BMI. These results are 16 percent higher than the age-adjusted overweight estimates obtained from earlier NHANES studies, (NHANES III, 1988-94) (NHANES, 1988-2002). Furthermore, Hedley and her team (2004) obtained height and weight measurements from 4115 adults and 4018 children in 1999-2000 and from 4390 adults and 4258 children in 2001-2002, using the NHANES. This study showed that
obesity remains a critical public health problem in the United States due to the fact that the prevalence of obesity among adults and overweight among children is not decreasing but rather has increased strikingly in the last two decades.

BMI for children, also referred to as BMI-for-age, is gender and age specific. BMI-for-age is plotted on gender specific growth charts. These charts are used for children and teens 2 – 20 years of age (CDC, 2001). BMI between the 85th and 95th percentile for age and sex is considered at risk of overweight, and BMI at or above the 95th percentile is considered overweight or obese (Himes & Dietz, 1994; USDHHS, 2001).

The United States is in the midst of an epidemic of obesity. Children and adults alike are increasing in size and weight at rapid rates. To give some sadly arresting facts, about 15 percent of children and adolescents are now overweight (CDC, 2004b). Dramatic increases in overweight were reported by the CDC (2004b), the American Medical Association (Ogden et al., 2002), and results of the NHANES surveys.

Medical problems common among obese children are heart diseases (Gidding et al., 1995), hypertension (Clarke et al., 1986), hypercholesterolemia and dyslipidemia (Johnson et al., 1975 & Morrison et al., 1979), type 2 diabetes mellitus & menstrual irregularity (Pinhas-Hamiel et al., 1996; Richards et al., 1985), making obesity a critical medical problem on its own. It is alarming to know that the major health problem in the United States, which is rapidly becoming worse, is obesity (Sturm, 2002). As previously clarified, obesity in children and adolescents is a serious public health issue. Health and social consequences associated with childhood obesity, such as increased prevalence of psychological disorders, e.g. depression (Wadden et al., 2002),
often continue into adulthood and impact those individuals' personal and professional lives. Implementing prevention programs and getting a better understanding of treatment and management for the young generation is of utmost importance. It is important to understand the vital role parents, caregivers, and nutrition educators play in making such programs successful whether implemented at home, school or even the community (Escobar, 1999).

Fighting childhood obesity is difficult, due to the detrimental impact that obesity may have on children’s self-consciousness and psychological well being later on in their life. Mental health problems and low self esteem can be associated with childhood obesity (Strauss, 2000; Davison & Birch, 2001), in addition to some eating disorder risk factors, which develop later on due to childhood obesity (Fairburn et al, 1998) increase the necessity to understand how to approach such problems in children.

On the other hand, even mild childhood malnutrition can limit a child’s cognitive, learning and educational achievement (Centre on hunger, poverty, and nutrition policy, 1995). In view of the fact that malnutrition and obesity has a great impact on a child’s mental, developmental and physical health, it is important to develop policies in schools. Schools can help promote a healthy lifestyle for their students by influencing their health behavior, through special health programs and policies. The Center for Disease Control and Prevention (CDC) developed a comprehensive strategy, as mentioned previously, with the ultimate goal of promoting healthy eating among school-age youths (CDC, 1996). This strategy was based on the integrated components of health education, physical education, health services, nutrition services, health promotion for faculty and
Physical Activity, Sedentary Behavior and Childhood Obesity

Adults, children and adolescents alike benefit from physical activity. A healthy lifestyle includes not only the promotion of better dietary habits among adolescents but also the participation in regular physical activity. According to the surgeon general report (CDC, 1999), moderate and strenuous physical activity are both beneficial for adolescents with the latter being even more beneficial. In children and adolescents physical activity has been shown to decrease chronic disease risk factors, such as blood lipid concentrations, blood pressure, obesity, and increase HDL cholesterol and psychological well-being. Other benefits include helping to build healthy bones and muscles by increasing bone mineral density (Pate, et al., 1996; (CDC, 2005a).

Results from a study published by the CDC showed that only 6.4% of middle schools in the United States offer daily physical education of 225 minutes per week. More specifically, schools require physical education for only 26.2% of seventh, 25.1% of eighth and 13.3% of ninth grades (CDC Department of Health and Human Services, 2000). Looking at it from a different perspective, about 50% of adolescents in the U.S. do not practice daily intense physical activity, and 14% do not engage in physical activity at all (CDC, 1999). The worry is that as these children get older, fewer will engage in physical activity (CDC, 2005a).

The low level of physical activity among adolescents is related to modes of entertainment for children in the twenty first century. Today, excessive time is spent in primarily sedentary amusement activities, such as watching television (Lowry et al.,
2002), computer surfing, cinema, and playing video games (Hill et al., 2003), which are partly to blame for this escalating rate of inactivity. School based interventions to increase physical activity levels among children are part of the solution to the decreased activity levels; the other part is community, family and friend support. Families and communities act as role models to these children, offer opportunities for a variety of enjoyable and beneficial activities and encourage the participation in organized and free time physical activities (CDC, 1999).

Adolescent Development

The period in which a child transitions into an adult is associated with dramatic physical, emotional, social, and cognitive changes (Stang & Story, 2005). This immense physical and emotional growth during adolescence affects food choices, eating habits and body image of adolescents (Insel, et al., 2003). It is a natural part of adolescents’ nature to transition to an independent state. This independent state means that they do not like to be told what to do (Stang & Story, 2005). Many of the health and food choices adolescents tend to take are influenced by their peers (Steinburg, 1996). Adolescents need peer support in order to establish their independence and fit in their environment and circle of people they interact with in their everyday life (Stang & Story, 2005). For example if an adolescents’ friend perceives milk as being “babyish”, a teen will choose soft drinks instead. Or if they think that eating a salad everyday is cool, then they are more prone to keep up this habit. This is another reason why school based nutrition policies can be an effective means of establishing healthful nutrition practices.

Adolescents do not like being told what to do and since their independence is of much importance to them, adolescents choose to select the foods they wish to eat (Stang
& Story, 2005). In other words, an adolescent can not be told to eat this and to not eat that. However, as a parent or a caregiver, one can provide nutritious foods, information, and advice to them, but in the end it is up to them to take that advice and apply it, or disregard it. In addition, adolescents’ eating behaviors are affected by their environment, what their parents, other adults in their life, and their peers eat (Story et al., 2002).

The factors influencing adolescents’ eating behaviors and patterns according to many researchers (Story et al., 2002; Stang & Story, 2005) are macrosystems, such as socioeconomic-political systems, food availability and mass media. Another factor is personal, this includes cognitive (body image and self-concept), behavioral (food preferences and food related skills), and biologic (growth, physiologic needs and health status). Finally, the environmental factor includes microenvironmental such as social/cultural norms and values, fast foods and school meals and the immediate social environment, such as parent modeling, home environment and peer norms and influences, which all play an important role in influencing adolescents’ eating behaviors.

Adolescents like to eat foods high in fat, and calories especially at fast food restaurants (Stang & Story, 2005; Lin et al., 2001), which may lead to vitamin and mineral deficiency (Van Way III & Ireton-Jones, 2004). Generally speaking, it is during the teenage years that adolescents choose between being athletic and active or on the other hand, not exercising at all. (Van Way III & Ireton-Jones, 2004). Girls tend to have even more problems associated with body image at this stage of physiological and psychological development, due to the negative view associated with increased body fat (Stang & Story, 2005).
Current Nutritional Status of Middle School Children

Dietary reference intakes for adolescents are based on age and gender, despite the fact that growth varies among these individuals. Energy needs are also the greatest at this stage, except for pregnancy and lactation, due to the tremendous physical growth of adolescents (Institute of Medicine of the National Academies, 2002).

Nutritional intervention during adolescence is a key component to implant appropriate dietary habits that eventually aid in preventing disease and promoting a higher quality of life among this population (Cavadini et.al., 2000). As previously noted, the prevalence of overweight among adolescents, age 12-19, has more than tripled in the past 20 years, and this has multiple consequences on the child’s physiological and mental well being (Hedley, 2004; CDC, 2004b). Cavedini’s study (2000) of food trends among adolescents showed that adolescents in general consumed greater intakes of fat than the recommended dietary guidelines suggest. Saturated fats are excessive in children’s diets (Lin et al., 2001). Added sweeteners, mainly from regular soft drinks, contribute 20% of adolescents’ total energy intake (Guthrie & Morton, 2000).

In addition, adolescents’ intakes of fiber, folate and calcium were less than the recommended amounts for optimal growth and development (Cavedini, 2000). One of the reasons behind this is that a very large segment of this population does not eat the recommended number of serving of fruits, vegetables, and whole grains (CDC, 2000). According to some national data compiled by the USDA (Moshfegh et al., 2005), males between the ages of 9 and 13 years in 2001-2002 were getting 72% and females 94% less calcium than the adequate intake. Females, in addition to consuming less calcium, also showed a poor consumption of iron (Cavedini, 2000; Lin et al., 2001) compared to boys
who consumed excessive intakes of cholesterol and sodium (Lin et al., 2001). This is a concern in females due to the fact that dietary iron is necessary for the replacement of iron lost due to menstruation, and in adolescent boys the added iron is also very important to support the growth of muscle and lean body mass. A contributing factor to the decreased calcium intake is that milk intake has decreased and been replaced by soft drinks, non-citrus juices, and drinks (Cavedini, 2000; CDC, 2000).

Furthermore, as previously mentioned, since adolescents usually tend to choose foods high in fats and saturated fats, particularly from fast food restaurants, this may lead to vitamin and mineral deficiencies, in particular calcium and iron (Insel et al., 2003). A recent USDA report (Moshfegh et. al, 2005) indicated that 13% of males and 34% of females between the ages of 9 and 13 years are not getting the desirable intakes of vitamin A. This can be improved, however, by an increased intake of fruits and vegetables, and one way to do that is by promoting supportive nutritional food choices at school, since they do spend 33% of their time at school.

School Based Nutrition Education

School based nutrition education programs play an important role in affecting the child’s overall eating and physical activity behaviors (ADA Reports, 2006). This is why the USDA considers schools to be a basic element in promoting healthful eating behaviors in children and adolescents (USDA, 2001). Such nutrition intervention programs, such as the 5 a day program and the Child and Adolescent Trial for Cardiovascular Health (CATCH), have been found to be successful in improving the nutritional status of children, lowering their fat and cholesterol intake (Luepker, et al. 1996), and increasing their fruit and vegetable intake (Perry, et al., 1998).
**5-A-Day Program**

Currently known as 5-9 A Day, this is a national public/private nutrition program initiative established between the National Cancer Institute and the Produce for Better Health Foundation. This initiative aims at raising public awareness to the importance of eating at least five servings of fruits and vegetables a day to alleviate the risk of a number of chronic diseases and promote better health and nutrition behaviors among all Americans. State, regional and local 5-A-Day activities differ from one area to another, and the state coordinators are responsible for managing the 5-A-Day program in their state (Havas, et al., 1994; National Cancer Institute, 2005).

The program has four main activities that include, Men Eat 9 A Day campaign, African American campaign, increasing the availability of fruits and vegetables in schools, and evaluation. The concentration on schools aims at conveying this important information to children. Projects were initiated in certain schools to increase fruit and vegetable intake among the children and the best way agreed upon to do so. In addition, the program is also committed to study the effect that increased fruit and vegetable intake has on the participation of children in school meal programs and snack choices (Havas, et al., 1994; National Cancer Institute, 2005). This program has been found successful, as it increases fruit and vegetable intake among children and the total calories from fruits and vegetables (Perry, et al., 1998).

*The Child and Adolescent Trial for Cardiovascular Health*

The Coordinated Approach to Child Health, which was later changed to Child and Adolescent Trial for Cardiovascular Health (CATCH) is the “largest school-based health promotion study in the U.S.” (CATCH, 2005). It was conducted in 96 schools in the
United States; the states included in this trial were California, Louisiana, Minnesota, and Texas (Perry et al., 1990). The program was planned to encourage physical activity, healthful food choices, and discourage tobacco use in the 3rd-5th grade students (Perry et al., 1990). The components of the program include classroom education using the “Go For Health” classroom curriculum, school environment using “Eat Smart”, physical education, and smoke free school policies, and family components using “Family Home Team” (Perry et al., 1990; CATCH, 2005).

The first phase of the study was the pilot phase, which included the development of the study design, intervention, and measurement (CATCH I). This lasted three years. The second phase was the main trial phase (CATCH II), which started in 1991 and ended in 1994 at the end of the school year (Osganian et al., 2003). In 1994, to evaluate the program, cardiovascular disease risk factors in children were measured, including changes in a number of behaviors associated with the disease, such as diet and physical activity, sodium and fat content in school lunches, and the achieved levels of moderate to vigorous physical activity in the physical education class (Luepker et al., 1996). The final phase (CATCH ON), from 1998-1999, was to determine the impact or changes the program had on psychosocial, behavioral, and physiological risk factors. In other words, the “CATCH ON” program was designed to identify the degree of institutionalization of the CATCH program, or the extent of ‘routinizing the implementation of the program’ (Osganian et al., 2003). Positive outcomes of the CATCH program were seen on the school and individual levels. Schools participating in this intervention program showed a significant decrease in energy intake from fat (P<.001). Students’ fat and cholesterol intake was also reduced significantly, (P<.01, P<.05, respectively). This program was
obviously a success and is a model school health program, that can assist in the improvement of health behaviors among today’s children and tomorrows adults.

These are just a couple of the successful nutrition programs being implemented in the U.S. today. This brief overview supports the effectiveness that school nutrition policies and nutrition intervention in schools can have on children. Such interventions help children make better choices, build a stronger and healthier body, promote their learning and cognitive abilities, decrease their risk of obesity associated diseases, and most importantly retain these positive behaviors and attitudes with them into adulthood.

Role of Principal

Enhancing student achievement, continuing education and preparation of all children to become successful citizens and workers in the 21st century are common missions of schools (Erb, 1995), and since principals are the professional leaders in schools, who assure that such a mission is satisfied, nutritional health of children and the quality and type of foods offered to students on school premises are also important factors to complete such a mission. This powerful and significant individual’s role has been clearly stated by the U.S. Senate (1972, p. 305), “In many ways the school principal is the most important and influential individual in any school.... It is his leadership that sets the tone of the school, the climate for learning, the level of professionalism and morale of teachers, and the degree of concern for what students may or may not become”.

The climate of learning involves the school culture and environment (Peterson, 1999); nutritional health and environment is one of such factors, which has a major influence on students (CDC, 1996; ADA Reports, 2003; ADA Reports, 1995). Such a supporting nutritional environment is conducive to learning, enhancing student achievement and
overall well being (Centre on hunger, poverty, and nutrition policy, 1995; ADA Reports, 2003). However, it is important for principals to understand the relevance of such a supportive nutritional environment, since they are the role models and their influence on the students creates more positive cultures in the schools (Fiore, 2000).

Schools are responsible in communicating constructive and influential health practices and messages to their students (Erb, 1995). Nutrition related decisions in schools are an example of one of the decisions that school principals probably need to take, especially if there is no state law requiring specific guidelines, rules, or regulations on food sold or students’ nutrition related behaviors in schools. Not only are they decision makers, but also mentors, observers, and role models (Peterson, 1999; Erb, 1995), which makes them knowledgeable of practically every area of a students’ life on school grounds. This means that principals are aware of what students eat, the food choices they make, and the factors that influence such choices. According to the U.S. Department of Labor, Bureau of Labor Statistics, principals are required to have a master’s degree in education administration or educational leadership; however, no nutrition or health related courses are required during the academic preparation phase of principals (U.S. Dept of Labor, 2006). Therefore, this may affect the strength of the nutrition messages conveyed by the principals to the students.

School Nutrition Environment

The School Meal Initiative (SMI) in 1995 was designed with the intent to provide more healthful school meals; however, a school nutrition policy is important because competitive foods sold outside the SMI are not required to meet such nutritional standards. The competitive foods service rule (1985) did not prohibit the sale of Foods of
Minimal Nutritional Value (FMNV) in the school foodservice area during school meal periods; however, FMNV was allowed to be sold outside the cafeteria at any time during the school day. (Competitive food service- Federal register, 1986). A USDA report was issued, which strengthened the federal statutory language to ensure that all foods sold or served anywhere in the school during the school day meet nutritional standards (USDA, 2001).

According to a study by the National Food Service Management Institute (NFSMI), which is located at the University of Mississippi, respondent school officials ranked behavior focused nutrition education as the most important component of a healthy school nutrition environment, and the second most important component was adequate funds provided by local, state and federal sources. Funding for school foodservice is the most important barrier, and competitive foods is the second most important barrier to a Healthy School Nutrition Environment (HSNE) (Rainville et al., 2004).

Healthy Meals for Healthy Americans supports a HSNE through its initiative in requiring all school meals to follow the dietary guidelines for Americans (Act. Pub L No. 103-448 §106). These guidelines (USDA, 1995) recommend the consumption of a variety of foods with the majority coming from fruits, vegetables, and grain products in addition to the diet being low in fat, saturated fat, cholesterol, and moderate in sodium. These guidelines will be reinforced in schools by establishing local school wellness policies in the beginning of the 2006-2007 school year under The Child Nutrition and WIC Reauthorization Act of 2004 (Pub L No.108-265 §204, 2004). The American Dietetic Association (ADA) supports school wellness policies that create a positive
nutrition environment and extends the nutritional education goals of the SMIs’. (ADA Reports, 2006).

School wellness policies are brought forward by the federal government with the main goal of promoting healthy diets, nutrition education, and physical activity in schools. The Child Nutrition and WIC Reauthorization Act does not allow the federal government to state the content of the wellness policies to schools. The local community, which includes, parents, students, teachers, school food service, administrators, school boards, and the public decide the contents of the policy. The local USDA, Office of Food and Nutrition Services, is responsible to provide the necessary technical assistance to schools, upon request, to establish this policy (Pub L No.108-265 §204, 2004; Bill Summary, 2004).

Other national agencies provide technical and practical assistance to schools for implementation of their school wellness policy plans, such as the National Institutes of Health, Department of Health and Human Services (2006), through their program, ‘We Can!’ which targets children age 8-13. We Can! stands for Ways to Enhance Children’s Activity and Nutrition. ‘Get Involved’ materials provided by We Can! offers practical tools for implementing and evaluating nutrition and physical activity programs for children, such as the new School Wellness Policy. These materials sustain the USDA School Wellness Policy goals. The toolkits are designed for community groups, such as ‘We Can! Energize our Community Toolkit for Action’, designed for parents, such as ‘Families Finding the Balance: A Parent Handbook, and others for professionals, such as ‘We Can! Curricula and Curricula Evaluation Tools.’
Vending Machines, School Stores, and Other Sources Offering Competitive Foods to Students in Schools

Bottled water and soft drinks were the most frequently available items in vending machines or school stores, which accounted for about 80% of sales, and fruit was the lowest offered item, with only 4% available (Rainville et al., 2004).

About 89% of middle/junior high schools have a vending machine, school store, canteen or snack bar where students can purchase “competitive” foods or beverages. In addition, fruit drinks, pizza, snack, chips, ice-cream, cookies and French fries are top a la carte sales items (CDC, 2000). Students receiving free or reduced meals are less likely to be purchasing a la carte items, due to inability to substitute for the a la carte food items, in addition to the high cost of buying such items (Probart, et al., 2006). Other studies showed that snacks sold at middle school stores contained high amounts of fat and/or sugar, and half of the food sold at these stores was sold during lunch (Wildey et al., 2000). Timing of the school lunch may be a contributing factor to a la carte sales as well, since early timing of lunch may result in student purchasing a la carte items when they become hungry (Probart, et al., 2006). More research, however, is required to confirm these results. The various previously mentioned components all play a role in the competition with the USDA SMI, which is an obvious problem that needs to be addressed.

A survey of secondary school principals found that 98% of schools have soft drink vending machines, and 77% have contracts with soft drink companies (French et al., 2002). Added sugars from these regular soft drinks account for one third of adolescents’ daily energy intake (Guthrie & Morton, 2000). This is an added reason behind the escalating figures of childhood obesity, that is present in the U.S. today.
Calcium deficiency and osteoporosis, as a result of the replacement of soft drinks for milk, and dental caries are all additional risk factors associated with the increased consumption of regular soft drinks among children (Committee on School Health, 2004). The good news is that the three biggest soda companies in the U.S., Coca-Cola, PepsiCo Inc. and Cadbury Schweppes, announced on May 3rd, 2006 that they will start removing sweetened beverages from schools starting Fall 2007. This removal will include sweetened drinks from vending machines and school cafeterias. In 2009 all sweetened drinks should have been removed, according to an article posted by the New York Times (Buros & Warner, May 2006).

Fundraising activities reach 99%, in which candy and baked goods were the most popular fundraising items. Twenty one percent of school fundraisers were during school hours (Rainville et al., 2004). Foods sold at school fundraisers were most often candy, fruit, and cookies (French et al., 2002). Professionals at school also play a big role in providing a nutritious environment for students in the school; one study reported that 55% of teachers and administrators use foods as rewards (Rainville et al., 2004). This is supported by a recent study (McDonnell et al., 2006), which showed that schools do not have a policy that prohibits teachers and other school personnel to use competitive food as reward or in school parties, as reported by school principals and food service directors.

A Brief Review of the History of School Nutrition Policies

In 1990 the American School Food Service Association (ASFSA) developed a definition for nutrition integrity after realizing the importance of a program supporting this definition in the schools and community. Nutrition integrity is “a guaranteed level of performance that assures that all foods available in schools for children are consistent
with Recommended Dietary Allowances and Dietary Guidelines and, when consumed, contribute to the development of lifelong, healthy eating habits” (White, 1994).

The national goal of providing high quality foods and effective nutrition experiences that will have a life-long effect on children’s health lies in the hand of the schools and communities. This started with the implementation of the National School Breakfast Program and School Lunch Program that aimed at meeting one third of the Recommended Dietary Allowance (RDA) for lunch and one fourth of the RDA for breakfast. Following this, in 1995, the School Meal Initiative for Healthy Children and The Dietary Guidelines for Americans were implemented to meet the RDA for protein, vitamins, vitamin A, calcium, iron and energy (no more than 30 percent of calories from fat and 10 percent from saturated fat) (USDA and Department of Health and Human Services, 1995; USDA, 1995).

In 1995, the American Dietetic Association (ADA), the Society for Nutrition Education (SNE) and the American School Food Service Association (ASFSA) promoted comprehensive school-based nutrition programs and services (ADA Reports, 1995) with the similar goal of having students eat in a health-promoting manner. Five years later the ADA established a position statement bringing forward the Local Support for Nutrition Integrity in Schools stating: “the school and community have a shared responsibility to provide all students with access to high-quality foods and nutrition services as an integral part of the total education program.” Educational goals, including the nutrition goals of the national school lunch program and school breakfast program, should be supported and extended through school district policies that create an overall school environment
with learning experiences that enable students to develop lifelong, healthful eating habits (ADA, 2000).

During the five years prior to the ADA position paper, there had been many collaborative efforts to reinforce the initiative for comprehensive school nutrition established by the CDC and USDA, reinforcing the national school lunch program and school breakfast program in addition to establishing guidelines for school health programs to promote lifelong healthy eating (CDC, 1996; USDA, 1998). After extensively reviewing the literature, the CDC (2005b) developed guidelines to help schools implement effective nutrition policies and educational programs to promote lifelong healthy eating behaviors (Appendix B). The guidelines cover seven basic aspects in achieving this goal: School Nutrition Policy, Curriculum, as part of a comprehensive health education, Instruction, through pleasant participatory activities that visualize nutrition education, Program Coordination among all related parties of school nutrition, Staff Training, Family and Community Involvement and Evaluation of the program’s effectiveness.

School Nutrition Policies, Their Influence and Relevance

Nutrition standards for foods served and/or sold to students in schools during the school day can be established through school nutrition policies. The procedures should include nutritional standards of school meals and additional foods and beverages sold or served to students. Further, this rule includes recommendations pertaining to all foods offered or sold on school premises. Although there has been many efforts on a national and state basis to promote healthy eating behaviors at schools like the previously mentioned national school lunch program and school breakfast program, there is yet a
wide variety of foods and beverages of minimal nutritional value (FMNV), that children can choose from, such as a la carte sales in the cafeteria, snack bars, school stores and vending machines, not to mention those acquired through fundraising activities, foods used as rewards from teachers, party celebrations and other events in which FMNV reach the hands of the children (AFT, 2000; GAO, 2000; Kramer-Atwood, et al., 2002). A study in Pennsylvania showed that only 40% of school principals reported the enforcement of nutritional standards for a la carte items as part of the SNP compared to 15% of school foodservice directors (McDonnell et. al, 2006). A SNP in place, however, has shown to improve the students daily participation in school lunch (Probart, et al., 2006).

Outside contractors responsible for stocking and running the vending machines, school stores and fast food lines in schools can cause problems related to the effectiveness of the SNP. These entities provide a number of empty calorie snacks and beverages, which adds to the present problem at hand. These problems with a la carte offerings, school stores, and vending machines, and suggested solutions obtained from the ADA Commentary (Kramer-Atwood et al., 2002) can be found in Appendix C.

Good nutrition enhances learning and the cognitive performance of the child and therefore, the quality of life. The SNP reflects an integrated approach to ensuring a school environment that promotes optimal nutrition for students (Kramer-Atwood et al., 2002) and therefore, better academic performance levels (Center on Hunger, Poverty, and Nutrition Policy, 1995; Kramer-Atwood et al., 2002). However, it is important to note that successful dietary changes must occur gradually. The intent of a SNP is to enable schools to provide students with nutritious food and beverage choices while
implementing changes progressively because a gradual change has longer effects than abrupt changes. This is done by “providing guidelines for school districts to plan, develop, maintain, and administer comprehensive nutrition programs through the integration of nutrition education, child nutrition services, healthy school environment and community partnerships” (Kramer-Atwood et al., 2002). A healthy school environment provides children with the nutrition education they need to maintain a healthy nutritional status by providing a pleasant eating environment, enough time and ample space for children to eat and enjoy their healthy meals (USDA, 2005). Nutrition education is established by providing the children with the knowledge, skills and support they need by means of a planned, organized and instructed program, that will not only help them make the right food choices today, but rather maintain these healthy eating habits for life (Kramer-Atwood et al., 2002). In summary, according to a Kramer-Atwood et al. (2002), the keys to providing healthy foods in schools include: Make school eating environments pleasant, have nutrition standards for all foods sold in schools, access the school environment to develop a shared vision and action plan, educate school administrators and integrate behavior-focused nutrition education into curriculum.

**Other Institutions Affecting the Implementation of a School Nutrition Policy**

The Centre for Nutrition Policy and Promotion (CNPP) in the USDA has decided on a strategic plan for the years of 2000-2005 in order to fulfill the specific goal of improving nutrition and well being of Americans (USDA, 2000). The USDA has been trying to find solutions on a federal and state basis by means of research based on national surveys, such as the Continuing Survey of Food Intakes by Individuals, the
National Health and Nutrition Examination Survey, the Consumer Expenditure Survey, and the Food Supply Data Series.

To fulfill the CNPP goal, it is important to start in schools, with children from the age of six to seventeen years. This requires that the government, professional organizations, and the private sector all work together for the success of the mission. Precisely and specifically speaking, it is important that the government, school administrators, food service facilities, teachers, health educators, parents, and more importantly, children themselves, all work hand in hand to provide a better mind and body for all American children.

National and State School Nutrition Policy in the United States

The problem, currently at hand, is that there is no national school nutrition policy, which makes it very hard to control the food environment, affecting the energy and nutrient intake of children at school. However, some states have taken action to address the escalating problem of child obesity and its consequences on the future generations’ health and development. From that point, political entities in the United States have been striving to develop nutrition policies in schools to redirect children today to the correct path of choosing the right food. Not only do these policies alone affect the child’s food choice, but also all the other parties associated in this phenomenon, such as parents, teachers, school administrators and foodservice members, may influence the child’s eating habits every day. States that have district school nutrition policies include: California, Georgia, Maine, Minnesota, New York, Pennsylvania, Texas, South Carolina and Wisconsin (American School Food Service Association, 2005). For the purpose of this research, it is important to note that Ohio is not one of the documented states, and it
is of utmost importance that a similar initiative takes place in Ohio to try to stop the epidemic of obesity among Ohioans.

Texas School Nutrition Policy

In Texas, the Department of Agriculture began implementing a new, restrictive policy on foods that are provided to students effective Aug. 1, 2004 (Appendix A). The Texas SNP has been enforced for the primary reason of limiting food choices of students to healthy food choices only. The following section discusses in brief some issues related to the Texas policy.

Consequences of Breaching the School Nutrition Policy in Texas

“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” (Texas Dept of Agriculture, p.15). However, not everybody agrees with the SNP. The Center for Individual Freedom (CFIF) is “a non-profit, non-partisan constitutional advocacy group that works to protect and defend individual freedom and individual rights in the legal, legislative and educational arenas” (CFIF, 2005). CFIF argues that the SNP is very costly and increases the financial burden on schools. They also add that legal consequences may follow, and students should be able to choose their own foods during the school day, after nutritionally educating them. CFIF feels that the SNP usurps the power of local school districts and parents’ control over the situation (CFIF, 2005).

An Overview of the Theory of Reasoned Action

The theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) is a model that attempts to explain behavior in social psychology. This theory studies
behaviors of people by incorporating the beliefs, attitudes, and intention (Fishbein & Ajzen, 1975). The strongest predictor of behavior is the intention to perform the behavior, which is the person’s informed and conscious decision whether to perform the behavior (Ajzen & Fishbein, 1980). The determinants of intention are attitude and subjective norm. In other words, the attitude is evaluated as a positive or negative belief. The subjective norm is the social context affecting a person’s behavior. Determining the normative beliefs leads to the development of the social context determining, which affects intention and behavior (Ajzen & Fishbein, 1980).

The goal of a school nutrition policy is to promote healthful eating behaviors and food choices among children. This goal is fulfilled with the support of a reinforcing school nutrition environment. A good school nutrition environment touches on all foods sold on school premises, whether in vending machines, the school cafeteria, food sold as fundraisers, or even offered as reward. Many factors, however, can affect the choices adolescents make, with a very important factor being the developmental transition of adolescents. Teachers, parents, the community, and principals themselves all play important roles in the ability of the policy to achieve its goals. The purpose of this qualitative study is to determine the reaction to the implementation of the first year of the Texas School Nutrition Policy from the perspective of a very important source in every school, the school principal.
CHAPTER III. METHODS

Design Overview

In-depth, semi-structured interviews were conducted via telephone with the middle school principals in Texas. The barriers and reactions to the policy in this qualitative research were studied using a questionnaire comprised of 13 questions that addressed the attitudes and beliefs towards the policy. The questions were developed by reviewing the Texas School Nutrition Policy. The survey instrument can be found in Appendix B. The study was approved by both the Human Subjects Research and Review Committee at the University of Toledo and the Human Study Review Board at Bowling Green State University (Approval Number HO502980E7). Oral consent was obtained from participants before proceeding with the interviews.

Participants were recruited from the twenty school districts in Texas according to a systematic plan developed. Some regions were bigger than others; depending on the size of the region one to six schools were randomly drawn from each region using a random number table. After completing the interviews, it was noted that there were many regions with no participants, due to the principals either being too busy or declining to participate.

Participants

Twenty three school principals and one assistant principal from Texas were interviewed (Table 1). The largest participating schools had almost 1500 students and the smallest 250 students. One principal indicated the number of students from grade K-12, and another from grade 5-6, the rest of the principals indicated the size of the school from grades 6-8. The school region with the highest number of participants was 11, with 6
successful interviews completed, and the regions with only one participant each were regions 10, 3, 9, and 15.

Table 1
Texas Middle Schools Participating in Study by Region and Size

<table>
<thead>
<tr>
<th>Region Number</th>
<th>Student Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>800</td>
</tr>
<tr>
<td>1</td>
<td>1475</td>
</tr>
<tr>
<td>1</td>
<td>800</td>
</tr>
<tr>
<td>2</td>
<td>365</td>
</tr>
<tr>
<td>2</td>
<td>371</td>
</tr>
<tr>
<td>3</td>
<td>350</td>
</tr>
<tr>
<td>7</td>
<td>450*</td>
</tr>
<tr>
<td>7</td>
<td>375</td>
</tr>
<tr>
<td>9</td>
<td>Not Indicated</td>
</tr>
<tr>
<td>10</td>
<td>550</td>
</tr>
<tr>
<td>11</td>
<td>425</td>
</tr>
<tr>
<td>11</td>
<td>950</td>
</tr>
<tr>
<td>11</td>
<td>500^</td>
</tr>
<tr>
<td>11</td>
<td>520</td>
</tr>
<tr>
<td>11</td>
<td>750</td>
</tr>
<tr>
<td>11</td>
<td>860</td>
</tr>
<tr>
<td>12</td>
<td>250</td>
</tr>
<tr>
<td>12</td>
<td>562</td>
</tr>
<tr>
<td>12</td>
<td>350</td>
</tr>
<tr>
<td>12</td>
<td>524</td>
</tr>
<tr>
<td>15</td>
<td>1000</td>
</tr>
<tr>
<td>16</td>
<td>840</td>
</tr>
<tr>
<td>16</td>
<td>108</td>
</tr>
<tr>
<td>16</td>
<td>165</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24 schools</strong></td>
</tr>
</tbody>
</table>

* From grade K-12
^ From grade 5-6

Procedure

To assess the barriers and implications of the new TSNP as perceived by the school principals, phone interviews were made. For many of the schools, two phone calls were made. The first phone call was to give the participants an idea about the study, and
then the official interview was conducted on another occasion, at a time convenient for each participant. Some of the principals were available for an interview the first time contacted, and so the interviewer proceeded with the interview during the first call. The majority of the calls (16/24) were completed by the primary interviewer (BK), who was directed and lead by the primary investigator. Each interview lasted approximately 30 minutes and was audiotaped.

A semi-structured question format was used, but additional questions, clarifications, or probing by the interviewer was carried out, when necessary, as the interview proceeded. In the protocol for this step there were scripts to begin and end the interview (Appendix B). The introductory script also reviewed some of the basic components of the policy, such as the sale of FMNV after the last lunch period, portion size regulation, and the prohibition of competitive food sale during meal periods. Since qualitative research entails open-ended scenarios, the researcher and respondent were able to interact and affect each other during the interview (ADA Monsen, 1994). Furthermore, a semi-structured interview is conducted because it is characterized by being both uniform and flexible to produce responses and themes that can be compared in addition to issues on questions that were not anticipated (Monsen, 1994).

The interview was audiotaped or recorded and transcribed word for word manually. This electronic recording equipment allows the researcher to establish and enhance the reliability and validity of the data. Furthermore, it may alleviate the flaws caused by manual note taking (Monsen, 1994). Verbatim transcription allows benefiting from the participants’ statements in the analysis and interpretation of the study (Fossey, et al., 2002). Forty two percent of the transcription was completed by the interviewer and
the rest by the researcher (RD). This joint effort among the research team allowed the completion of the data collection and analysis in a timely manner.

*Questionnaire Development*

A pilot study took place in one school in Texas, where one of the research assistants met with the school principal. The research assistant followed a semi-structured interview format, where she tested the study instrument. In light of this pilot study, the questions were reevaluated and slightly altered to address more specific needs to ensure that the form was sufficient and the research objectives were fulfilled.

The Theory of Reasoned Action Model was used as the questionnaire was developed because beliefs are part of the attitudinal component and normative beliefs being part of the subjective norm. Table 2 shows the negative, positive, or normative belief or social norms associated with specific questions in an attempt to understand the reactions to the policy, by principals, teachers, students, parents, and the community and why these parties reacted the way they did. This is important so that future states will be able to learn from the Texas experience. All the above reactions were studied through the principal, to seek input from him/her about students, teachers, parents, and the community’s reaction to the SNP. The principal was the source of information because the principal works in close proximity to students, teachers, parents, and the community, and therefore, is aware of all issues arising from these parties as a result of the implementation of the policy. Furthermore, the principal is also aware of the financial and health related barriers or benefits resulting from the SNP.
Table 2
Relation of the Theory of Reasoned Action to the Structure of the Survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Belief</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is your opinion of the policy?</td>
<td>Negative/positive belief</td>
</tr>
<tr>
<td>2. Have you encountered any problems (your school) with the implementation of the policy?</td>
<td>Social Norms</td>
</tr>
<tr>
<td>3. What is your impression of the financial impact on the school due to the new policy?</td>
<td>Negative/positive belief</td>
</tr>
<tr>
<td>4. Now I want to get your opinion of the reaction of other stakeholders</td>
<td></td>
</tr>
<tr>
<td>a. Overall what is your impression of how students felt about the policy/changes?</td>
<td>Normative beliefs</td>
</tr>
<tr>
<td>b. What feedback have you gotten from parents about the new regulations?</td>
<td>Normative beliefs</td>
</tr>
<tr>
<td>c. What have you heard from teachers about the nutrition policy?</td>
<td>Normative beliefs</td>
</tr>
<tr>
<td>d. Has anyone else in the community reacted?</td>
<td>Normative beliefs</td>
</tr>
<tr>
<td>i. If so, who?</td>
<td></td>
</tr>
<tr>
<td>ii. And How?</td>
<td></td>
</tr>
</tbody>
</table>

Data Analysis

After transcribing the data, the researcher analyzed the data by dividing it into categories and then developed relationships between these categories. In this first step of categorization or unitization of the data, the researcher segmented results into units by
question. Every unit was later categorized under specific themes (coding). These themes identified the conceptual framework, within which the data analysis was organized (Monsen, 1994). The theory of reasoned action was used as a basis for the conceptual framework; the researcher relied on both theory and data to produce a reliable comprehensive set of themes used to develop this conceptual framework.

The researcher coded the transcription by listing similar responses under one title or idea, as previously mentioned. If the participant gave more information relating to a different question or unit the researcher made sure to transfer the data to its appropriate place during the coding stage. Following the coding process, the researcher analyzed each coding unit, by dividing it into ideas with the common reply listed beside each idea. This also included numerical information, in other words, how many principals gave a similar answer to a specific question. For example, two principals replied that to comply with the policy, they trained their teachers regarding the changes in the policy. ‘Teachers’ is the idea, and training teachers is the common reply. The table of data analysis is attached in Appendix C. Emerging themes and thematic categories rising from the study were identified and defined. The final code was used in the final analysis to ensure consistency. The final themes were then visually displayed in the form of a concept map.
CHAPTER IV. RESULTS

Results by Question

The results in this section are described by question. Following their description, is a summary of the major themes that arose from the study.

*Question 1: What did your school do to comply with the policy?*

The main focus in the participants’ reply to this question was the restriction and time of operation of vending machines (Table 3). This included changes in the type of snacks or beverages stocked in the vending machines. A number of principals also noted a change in the cafeteria menu, such as cutting down the portion sizes and substituting certain items on the menu with healthier choices.

Table 3
What Middle Schools did to Comply with the School Nutrition Policy

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change/ removal in the type of beverage and/or snack in vending machines</td>
<td>11</td>
</tr>
<tr>
<td>Operation time of vending machines</td>
<td>9</td>
</tr>
<tr>
<td>Change in cafeteria menu</td>
<td>7</td>
</tr>
<tr>
<td>Portion control</td>
<td>4</td>
</tr>
<tr>
<td>Simply did what the policy required</td>
<td>4</td>
</tr>
</tbody>
</table>

- We did what it should. We took out drink machines, vending machines that had candy bars and stuff like that. We removed all of those. We removed them from the hallways. The cafeteria still has one, but we unplug it until after lunch time.

- They cut the portion on the fried potatoes and did substitutes sometimes with other fried vegetables.

- Pretty much we did what the law said
Other interesting answers that were provided by a few of the respondents were that a change in fundraisers or the time it was held took place. The teachers also had to change the party format, and training for teachers took place to familiarize them with the policy.

- The teachers can no longer have pizza parties, and we can no longer have honor roll parties with the cake. We do it with nachos after school.

- The teachers were in-serviced so they could understand the items that were allowed and not allowed.

A few principals misinterpreted some questions. For example, when the principals were asked what the school did to comply with the policy, they answered that the teachers wanted to have access to vending machines, and so vending machines were still provided for the teachers.

- You know we still needed among the campus to have our teachers have access to vending machines.

The respondents also noted that SNP awareness programs took place for staff and students, and different parties were informed about the policy and its enforcement. Flyers and newsletters were one way the school administration used to inform the students and teachers about the policy. In addition, students were not allowed to share food and were restricted to the times they were allowed in the hallway where there is a vending machines. Students were asked to respect policy guidelines and repeated purchases from line were limited to specific items. Some schools provided a staff member to make sure the students received all items required by the school lunch program when they went through the lunch line. Other principals mentioned that the
school made sure that the prohibited foods brought in by students or parents was not shared with other students.

- Um, first of all we wrote over the law. We were trained to the school district that I work for. After that, we basically just read the law and implemented the policy. We came back and trained our teachers on what the policy was, and we put up flyers around our cafeteria and sent out newsletters to our parents to explain the new policy to them and basically just informed everyone what the policy was and that it would be enforced.

**Question 2: In General what is your opinion of the policy?**

Eight of the participants stated that it was a good policy or had some good (Table 4). The positive reasons the respondents gave supporting their point of view was that it decreases the foods of minimal nutrition value and fried foods, trying to make “junk foods” unavailable for kids, which the kids are consuming on a day to day basis. Therefore, “health wise,” it gets the kids to eat more healthful foods, decreasing obesity or obesity related diseases.

- Um… I think one of the positive things, one of the positive things is that it really does cut down on foods of minimal nutritional value before lunch. Um, and I think that that’s good.

- I think it is a positive policy because um, especially here in south Texas we have a high prevalence of obesity especially within our younger population. I think that it’s great that our school and federal government are taking a proactive approach in curbing our obesity dilemma or problem. Because you know, obesity can start a whole range of diseases, such as diabetes, heart disease. It’s positive and I’m for it all the way.

- Oh, I don’t really have an opinion on it.
Table 4
Middle School Principal’s Opinion of the School Nutrition Policy

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>It’s a good policy or has good in it</td>
<td>8</td>
</tr>
<tr>
<td>It decreases obesity and obesity related diseases or because kids are overweight.</td>
<td>6</td>
</tr>
<tr>
<td>Can’t see any change, can’t see difference in their eating habits or don’t think the policy can solve the problem of overweight or schools are not what feed the kids unhealthy food because they can bring from home, parents can bring, or schools are not the source of obesity</td>
<td>6</td>
</tr>
<tr>
<td>No opinion or no problem with it.</td>
<td>4</td>
</tr>
<tr>
<td>Health wise</td>
<td>3</td>
</tr>
<tr>
<td>Decreases FMNV</td>
<td>2</td>
</tr>
<tr>
<td>Can’t tell kids what to eat and is a battle to convince them not to eat certain items</td>
<td>2</td>
</tr>
</tbody>
</table>

Other respondents had a more negative opinion and were not satisfied with it, thinking that it is not effective and there is no benefit from it, or simply stated that it’s “silly”. A majority of this group believed that schools are not the source of obesity because the children can bring food from home or their parents can bring it for them to school.

- The policy in it itself is not a bad idea. You know we do have a lot of children who are overweight, but I’m not for sure the policy that they could place could actually solve the problem cause it didn’t limit what the kids could bring from home. If the kid wants to drink a coke for lunch, they could bring the coke from home as part of their lunch, and they could still drink the coke. If they want French fries, the parents can bring the lunch for them from the local dairy queen, or if they want an all specialty burrito, parents can bring their lunch to them leave
it at school and then the kids are hiding them. They can only bring lunch for their kid, you know …

Some of the concerns some of the participants had regarding students were that children may end up eating nothing due to the change in foods offered based on the policy. Not being able to send cookies, cupcakes, or other birthday treats was one of the disappointments mentioned by a respondent.

- There’s some kids that they’re just not gonna make good choices when you take that option away from them. They’ll choose nothing, which I think is worse.

Others pointed out that kids have breakfast and lunch at school and no supper so it provides healthy foods for those two main meals, or from another perspective the children have no choice but to eat healthy foods either from home or from school.

- A lot of our students eat both meals. When I say both, I mean breakfast and lunch, you know here at the school, you know, and some may not get a very good supper, a very good nutritious supper, so it’s probably a good policy.

Other interesting responses were that healthy foods are more expensive, making it hard for the school to afford such as fruits and vegetables. Another respondent explained that people claim that children don’t eat healthful foods; however, caregivers still provide FMNV for the children. Therefore, this policy provides practical means to help educate and direct children to making the right food and nutrition choices in their everyday lives. Some of the respondents could clearly see that based on research, this school nutrition policy is necessary.

- It is kind of hard to, for a school to afford to really afford the kinds of things that would have… really replace it, like fresh fruit and stuff like that.

- It’s a good thing, if for the most thing we’re talking about how our kids are not eating the right thing but yet provide them with junk food and we’re it’s double standard there, so I think we’re moving in the right direction.
**Question 3:** Have you encountered any problems (your school) with the implementation of the policy?

The majority of the respondents replied “no” to question 3 (Table 5), however, the focus of the reasons they gave behind the problems encountered with the implementation of the policy was parents bringing food from home or students bringing food from home. The other problem was that students frequently complained about restrictions, wanted Coke® products in the beginning, or asked for restricted snacks. Finally, schools and school districts have to keep up with the changes.

<table>
<thead>
<tr>
<th>Table 5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems Encountered with the Implementation of the School Nutrition Policy</td>
<td></td>
</tr>
<tr>
<td>General focus of answer</td>
<td>No. of participants with similar answer</td>
</tr>
<tr>
<td>Replied “No”</td>
<td>12</td>
</tr>
<tr>
<td>Replied “Yes”</td>
<td>2</td>
</tr>
<tr>
<td>Neutral response or replied “occasionally” or “nothing major.”</td>
<td>2</td>
</tr>
<tr>
<td>Food from home or brought in from parents shared with other children</td>
<td>5</td>
</tr>
<tr>
<td>Kids complained about restrictions, wanted coke products in the beginning, or asked for restricted snacks</td>
<td>3</td>
</tr>
</tbody>
</table>

- We were asked, told rather that if children brought foods from home, there was nothing we could do about it; if it was sent with them from their parents, we had to allow them to eat it at their lunch. But the problem that we’re seeing is, that they’re sharing with the other children. So, one parent is sending say Fritos with their child, and they are sharing and that’s the type of problems we do see.

- I think the only issue is the kids wanted the Coke and asked us for the Coca-Cola® products at the beginning. It’s been a year now, and they drink what they have which is milk. And it’s good for them. You know, the kids will drink the milk if they have nothing else. Our district now has the fruit slushies, so I see a lot of kids going for that right now.

- No problems what-so-ever. And in doing so, our district took a practical approach. Not only did they comply, but they made sure that the food items were student tested for flavor and stuff like that. So a lot of the food being served, the
students had a play in that, a role, a decision, as to what foods they wanted to be served. So there has been a great response on the quality of the food, the freshness of the food, and the tasting of the food.

Revenue from fundraisers and vending machines is no longer available. Food as reward can no longer be used, and classroom parties have a number of restrictions related to the food being offered.

- Um, just, you know the limits, the restrictions that it puts on you. You know, you can no longer use food as a reward, I guess you might say, which may be good taste in some areas. But in other areas sometimes it’s been used as a learning tool, and it really limits you in the classroom.

- The only thing we run into is the fundraising. We can’t just open concession stands during lunch, things like that. That’s the only thing that’s kind of given us a little bit of a hard time. Students can’t sell certain things anymore. They can’t do candy bar sales, things like that because of the time. You can’t sell them in the middle of the day, you can’t have kids doing things like that in the morning. It also changed things like some of the parties in the classrooms. They can’t bring the cookies and cakes and things like that. Those have changed. Definitely nothing we couldn’t handle.

- Well, the parents enjoy celebrating their children’s birthdays, and sometimes the parents bring in items that are not allowed in school. So we have to maintain that rapport with the parents. We have to maintain the items that the students are eating have nutrition value.

**Question 4: If you could change the policy what would the changes be?**

Many of the principals proposed no change to the current policy, thinking that it covered almost every aspect in child nutrition; others did not know and did not give any ideas for change (Table 6). Some participants thought that FMNV should be allowed on special occasions, such as birthdays and parties. Also, as earlier mentioned, some respondents noted that it’s the responsibility of the parents and not the school, so the policy should be removed. On this note one participant thought that it’s a collaborative effort between the parents first and the school second.
Table 6
School Nutrition Policy Changes Proposed by Middle School Principals

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No changes or leave it the way it is</td>
<td>4</td>
</tr>
<tr>
<td>Don’t know or not sure</td>
<td>2</td>
</tr>
<tr>
<td>Remove it, parents are responsible for what their children eat, schools are not responsible for childhood obesity</td>
<td>2</td>
</tr>
<tr>
<td>FMNV should be allowed for birthdays, parties, or other special events</td>
<td>2</td>
</tr>
</tbody>
</table>

- Uh… I’m not sure I would make any because I think it covers what needs to be covered. I’m not sure I would change anything in it right now.

- Ah, I’d do away with the policy. It’s a government trying to dictate what children eat, and the last time I checked that was the parents responsibility not the governments.

- Ow, that’s a hard problem, I’m not sure that you can legislate um, you know what kids eat at school. I like the idea of not having soda machines at lunch, but I think it’s more of a, the kids are eating junk at home. They’re bringing it. I just think that the, the real problem lies at home and what the kids are eating at home. I do not believe the kids are being obese because of what they eat at school.

- Well, I would think to give us a little bit of flexibility even if it were just one day a week to just do something fun, whether it’s snow cone, or whether it’s a pizza party, or something like that.

- If I had to make a change, certain they call em junk foods, but certain foods that do not meet their minimal nutritional value guidelines I guess, should be allowed for special circumstances, whether it be for a birthday or a party.

Fewer respondents asked for more flexibility, others for stricter policies, with teachers enforcing the policy as well. Another mentioned his hope to allow the students to have access to juice or water machines whenever they wish to, or have the soft drinks they wanted to be purchased for lunch and some of the snacks too. Others thought that the cafeteria lunch had too much starch in it, and it is important to be stricter on high fat foods, beverages, and concession foods. Other interesting points included the need for
the funds from vending machines, especially that some after school programs involved adults, cooking foods the children eat increasing portion size, and changing time constraints to which food can be served.

- I would like them to take a lot of the junk out of the lunch and put you know like we have pizza and French fries with cheese, and the kid can buy as much as they want. I’d like there to be some regulation on how much junk they can still buy.

- The fact that there’s too much sugar for the kids, that’s bull. I mean that’s just lack of discipline. You having problems with kids. You blaming it all on what they eat. You’re missing the boat.

- Even stricter policies that enforce teachers to make sure students don’t bring things from home.

**Question 5:** *What recommendations would you make to those in other states who would want to establish a similar policy?*

There was no consistency in the answers provided by the respondents. One respondent recommended that other states not go through with such a policy. Two others stated that every state should go through with a similar policy, and finally, one person recommended that a longer pre-notification period was necessary (Table 7). However, many participants suggested doing more research, publicizing the policy and establishing public relations prior to implementing the policy. Giving more attention to what is served to the kids at lunch, re-evaluating portion sizes, and taking into consideration the financial disparities from one child to another was another common answer among the participants. Another rising theme from this was communication between all stakeholders, especially students, parents and school. For example, with regards to students, designing cafeterias that are more student-friendly and inviting, giving more consideration to students, and allowing exceptions or giving more attention to children with special health conditions, such as diabetes. As for parent involvement, this included
educating the parents on healthful food choices and their affect on their children. Finally, recommendations the school could use were, give more attention to restrictions mandated in the policy and make sure that stringent guidelines are present, so no affected party can go around the policy. In conclusion, allowing some flexibility and designating a couple of days for parties or special occasions was a joint theme among some of the participants.

Table 7
Recommendations to Other States that Would Want to Establish a Similar School Nutrition Policy

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involving and/or educating parents, students, the school and the community</td>
<td>9</td>
</tr>
<tr>
<td>Do not do it, a SNP will not fulfill it’s a ultimate goal</td>
<td>3</td>
</tr>
<tr>
<td>Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>Taking into consideration disparities among children</td>
<td>2</td>
</tr>
<tr>
<td>Designating special event ‘exception to the policy’ days</td>
<td>2</td>
</tr>
<tr>
<td>Research</td>
<td>2</td>
</tr>
</tbody>
</table>

- Ah, put your money more in educating the parents on child nutrition instead of mandating us to monitor it. I mean the kids, the school district will serve what the kid will eat, and if the parents are educated and the parents start demanding more healthy food, then their child know where the high important is for their children’s health.”

- That would be pretty hard, like to visit some place and to see what they’ve done but getting information like you’re doing would be very helpful. I think you need a lot of publicity, getting everybody on board so you know. We’re in a really small school, you know. We probably didn’t get as much reaction out of it as they did in some of the larger school districts you know from parents and things like that, and I think most of the parents were ok with it. As a few who maybe complained a little bit because you cut down the portions of the food, they’re some of the boys, who don’t feel they got filled up, you know, and so a few complaints, you know, but I think you know just trying to pave the way with some good PR before you start it. PR, especially with the community. Do you feel like you had enough advance notice about what was going to happen? (probing from interviewer) Well, we knew you know we knew, I think it would have been better to have a little bit more time, but we know in the spring that we were gonna implement the next school year. And I think we could’ve gotten the information a little bit earlier like in the beginning of the year in order to start it
next fall, so it gives you more time start breaking everybody in the fact that you’re not gonna get your candy bar and you’re not gonna get to have your big old water French fries.

Some of the answers were negatively driven as can be seen in focus 1 (involving other stakeholders). The reason behind the majority of these answers was that the responsibility lies at home and not with the school. Consequently, children’s dietary habits depend on what they are exposed to at home (15/24). Therefore, educating parents and not mandating schools with SNP is what needs to take place in order to achieve the ultimate purpose of good nutrition among children, according to the principals.

• But it’s still going down to the, what they’re eating at school is not the reason why they’re fat the reason they’re fat is because of what their parents have em eating at home. You know you’re not gonna solve the problem by just letting what they’re eating at school.

• Well, I don’t think it hurts anything, but I’m not guaranteeing ... depends on what you want as your final result. In Texas here, I think that the final result that they’re wanting out of this, they’re not going to get.

Some answers were somewhat unexpected. For example, the policy mostly affected students on free or reduced. Other children can either bring their own lunch, or purchase it from outside vendors. Allowing food as an educational tool, especially in math and science classrooms, was another recommendation provided by one principal.

• Basically, all we did on the people that eat lunch in the cafeteria now are those who are on free or reduced lunch, rest of them bring their lunch. **Ok, so you have a majority of your students bring their own? (probing from interviewer)** Well, I’ve got a high percent that are on free or reduced lunch, but a, ya I’d say half of them bring their lunch. Now they’ll eat on the day so we serve the French fries, and we serve them three days a week. On the days we serve the French fries, they’ll go eat.

• Well, I just be very careful of the restrictions that they put in schools, because schools are learning environment, and just like I say teacher sometimes want to use food as a educational. You know, there’s nothing that beats a student being
able to measure, mix, build and put together a pancake. Let’s say for instance, you know for a measurement activity, but you, now, you have to get it approved, and you have to know abide by the restrictions of whenever you can do that. And you’re limited to so many years that you can do. You know, I really would caution them to look carefully at their educational program especially whenever we’re making the move to project best learning. And we’re trying to make sure that students have every hands on application that they can to incorporate learning into the classrooms, especially math and science classrooms.

**Question 6:** What is your impression of the financial impact on the school due to the new policy?

Twelve of the participants were not sure or were not financially affected by the new SNP. Eleven replied that they did have a negative impact, with the greatest impact affecting, whether it be school discretionary activity funds, material budget used for playground equipment or student tutoring and activity funds (Table 8).

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not sure, No or negligible impact</td>
<td>12</td>
</tr>
<tr>
<td>Negative Impact</td>
<td>11</td>
</tr>
<tr>
<td>Discretional Activity funds budget affected</td>
<td>7</td>
</tr>
</tbody>
</table>

- Probably neutral for us, because where we placed our machines. And the machines are owned by the Dr. Pepper company, and we don’t sell the Dr. Pepper drinks. We sell their non carbonated juices. We sell, you know, Welch’s drinks, and so on and so forth, and we have always gotten a percentage for having their machines in our building. We get a percentage of the profits, and that percentage has remained the same.

- Well… Extra money is going to make a big difference. Things like student accounts we use for student activities and stuff like that, fundraising for different clubs and things that the kids can be selling- we used to sell candy bars and that would put money into the student activities account. That starts to hurt a little bit because you don’t have those kids able to do that anymore, and we’re not able to do anything different to replenish that account we may be pulling out of. *Okay*
(probing from interviewer.) It’s not going to close the school down or anything, but you’re dealing with the loss of a few extra bucks where you could use for the kids.

- Um... for us it was somewhat negative because we lost commission money. We would usually get a check for about $6,000 a year, and we don’t get that anymore. And this was money we use for technology. Then again, we have to balance it out. We’re feeding the kids all this junk and can earn money. You know, in the long run we need to say that this isn’t ethical. We just learn to live without the money.

Some of the participants had a national perspective related to the financial impact. For example, one participant mentioned that the impact is on the state as a whole. In turn, what has been affected is the dependence incentives and fundings for the students that relied heavily on vending machines. Another principal made the comment that it would have a bigger financial impact if the school did not comply with the policy. On a large scale, one respondent answered that bigger districts are trying to negotiate exclusive arrangements with Coke® and Pepsi® to make up for the lost funds.

- Well, you know it’s one of the things that you’re gonna have to comply to or it would have a bigger financial impact. This is the penalty. I know that like our cafeteria workers and a lot of their training. They had a couple of machines, and they received the funds from those. And when they went to their summer workshops all of that it was all paid for out of that funds. So I don’t know if the school district has picked that up for them or what, but that was one useful.

**Question 7: Now I want to get your opinion of the Reaction of other stakeholders**

* A. Overall what is your impression of how students felt about the policy/changes?

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>13</td>
</tr>
<tr>
<td>Adjusted rather fast or learned to live with it</td>
<td>8</td>
</tr>
<tr>
<td>Neutral</td>
<td>5</td>
</tr>
</tbody>
</table>
The variety of responses from the principals’ included negative feeling from the students; they were shocked, irritated or angry, neutral, it did not impact them, they liked it, or students adjusted fast or learned to live with it (Table 9A).

- Oh, the students hated it; they hated it. They want the junk food.
- Irritated because just irritated, again because of the newness of the thing.
- Um, the kids will adjust. They’ll adjust whatever they’re told to. You know, whatever’s in there they’ll eat; they’re fine.

Some of the students found alternative methods to deal with the implementation of the policy, and this included purchasing other drinks on campus, bringing food from home or purchasing it from outside vendors, or binge eating when going home. Again in this question we see the issue of financial disparities among children arising and causing some issues as a result of the policy. On this note, students who come from well-off households are able to have access to FMNV beyond the school premises, and economically disadvantaged students are not being able to purchase or obtain FMNV outside the school.

- I think at first, they did not like it because they’re used to getting a Coke or Dr. Pepper or Sprite or something whenever they wanted it or when they could get it at lunch or at break or run after school. But now I see them buying the other types of drinks, you know, just as much. The gentleman, who comes and replaces or who fills the machines, he still comes on a regular basis. Just last week one of our machines was completely empty.
- You know I have a school, which is about 60-65% economically disadvantaged, probably even higher than that and em, every year it goes up, and I have other kids that are fairly well off. And yet my fairly well off kids, they can bring whatever snacks, you know, whatever, they’ve got the money to buy that stuff, you know they buy em or they go home and their parents have it they bring it up here. Some other kids, can’t necessarily afford to get it, because they’re on government fundings for their lunches probably huh? (probing from interviewer) Exactly or you know that’s an interesting, that’s an interesting point actually
(probing from interviewer), they’ll bring a Coke and that kind of stuff, and you know, they have it in their bag packs. And the kids go, well, why should they be able to have it in their bag packs when I can’t. You know, I can’t bring it, I can’t buy it from campus, but they can bring it, because they get a chance to go buy the Seven Eleven on the way here. And I’m like hmm, it’s not my rules.

B. Have you heard from parents?

Eleven of the principals said that they did not hear from parents (Table 9B); however, some noticed that parents started packing their children’s lunch. Of those who they did hear from, their objection was regarding birthdays and special occasions. They liked to bring cupcakes or other FMNV to school on their child’s birthday, for example. Other parents did not like it in the beginning but adjusted with time, as students did.

Table 9B
Parent’s Feedback Regarding the School Nutrition Policy

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>11</td>
</tr>
<tr>
<td>Birthdays or special occasions</td>
<td>3</td>
</tr>
<tr>
<td>Did not like it especially in the beginning</td>
<td>3</td>
</tr>
</tbody>
</table>

- The people have talked with again, felt like they needing to be concentrating on something else other than what their kids are eating and not placing blame for poor behavior at school on what the kids were eating.

- I think they were probably looking at it from their children’s point of view. They didn’t think it was such a good thing last year, but you know I heard very little comments. I think we just kind o gotten used to it this year. It’s just, you know, it’s just been accepted, and I haven’t heard any comments this school year.

One principal said that comments from parents were that it was their responsibility and not the schools to decide what their children can and can’t eat, and some wanted their children to eat more. Some parents thought that it would not achieve its purpose. The rest were supportive and receptive of the policy.
• We’ve had a few parents that came in and said it should be up to them and not the school.

• Um, it depends, it just depends on the parents perspectives on things. Um, like I said we’ve got very supportive, very good parents at our school. We’re very fortunate that way, so they’ve been supportive once they understand. They want, you know, we’ve got, I probably got a dozen parents a day that bring food to their children and alot of time to their children’s friends. So they want to be able to do that, they just want to know what the guidelines are, and once we let them know, our kids are getting better food that way.

C. Have you heard from teachers?

Many of the teachers did not have anything to say about the policy. Those who did were either skeptical about the policy or objected about not being able to use food as reward or incentive (Table 9C). Some of these teachers found alternative methods to solve the problem; they used non- food items as incentives, such as stickers and pencils.

Table 9C
Teacher’s Feedback on the School Nutrition Policy

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td>Food as reward</td>
<td>7</td>
</tr>
<tr>
<td>Skepticism</td>
<td>3</td>
</tr>
</tbody>
</table>

• Um, not much I mean they, things are moving in the right direction but you know kind of go the same way you now. Either, they’ll either deal with what they have, or they’ll deal without.

• It’s negative too. It restricts. I mean they can, if it’s tied into a lesson. They can do something with food, but it’s you can’t use that as a reward anymore.

• The teachers haven’t the first year, you know don’t give food out for rewards. There was a little bit of it, but ahh that doesn’t make sense, na. We’re not, it’s not us, making kids fat two piece of the candy we’re giving out. But after they made the adjustment, haven’t’ heard anything in the last two years really, they have adjusted to it.
Some respondents thought that the teachers were supportive of the policy and mentioned that teachers wished it was stricter, another objected that students can’t cook. The rest either thought it was new or different or had no choice but to adjust and accept it. One of the hard tasks on the teachers was that they had to turn parents’ requests for birthdays down. The issue of fundraising was also mentioned in this question as can be seen in the quote below.

- Teachers are pretty supportive, and they themselves, some of them like to model you know. Some of them eat with the kids when they have a chance.

- Um… they were fine with it and had no problem with it. Because, again, being in a secondary school, we’re not big on giving candy and things like that, where elementary does little candies and parties. I didn’t hear any problem at all.

- Well, the reward system, they’re using it in classrooms. That’s basically the big one, is using it in classrooms. You know, whether or not they could cook in their classrooms, whether or not they could use it as an incentive in their classrooms, and you know basically that’s pretty much denied.

- You know another thing is the fundraising. Students a lot of times at this age sell candy bars for fundraising for different activities, such as band and things. You know, they can’t sell any product, such as that until after the last lunch, well that does make the burden fall on the parents, if they do the fundraising, they have to do it after school.

The misinterpretation from some of the principals was that they addressed the teachers nutrition habits as a result of the policy, instead of the teachers perspective on how the policy affected their students.

- Nothing, most of em bring their food, lunch with them anyway.

- Now the teachers have their soft drink machines in the teachers lounge, and they can still, you know, they can still get soft drinks if they want them.
D. Have you heard from the community?

The majority of the principals did not hear anything from the community, and many of them who did, heard it through the media (Table 9D). One respondent did not know. Many heard positive reactions; those who accepted and supported it in the community.

Table 9D
Feedback from the Community about the School Nutrition Policy

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>16</td>
</tr>
<tr>
<td>Through the media</td>
<td>3</td>
</tr>
</tbody>
</table>

- No, not really, it’s just basically affecting the schools. Unless you have kids in the school, it hasn’t been a real big stink here.

- Last year in our local newspaper I would see letters to the editor complaining, you know, not so much about the school but about the state making us do this. You know I think the local citizens realize, you know, it was a mandate from the Texas education agency that we had to do this. There was em you know there was that type of thing going on, but I haven’t heard anything to share. I think people just kind of accepted it, and like I said here at the junior high level, we didn’t have to change that much, basically the drinks.

- I think they fine with it. We want healthy children.

**Question Eight:** Have you noticed any different food or nutrition behaviors with students?

Almost half of the participants responded that they did not see any different food and nutrition behaviors with the children. The reasons they gave varied. Many of the respondents mentioned that children started bringing food from home, their parents brought it in for them, they started purchasing the food from outside vendors, or they somehow get around the rules (Table 10).
Table 10
Different Food and Nutrition Behaviors among Students

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change</td>
<td>12</td>
</tr>
<tr>
<td>No change, foods brought in from home or from parents</td>
<td>6</td>
</tr>
<tr>
<td>No change, food brought in from outside vendors</td>
<td>3</td>
</tr>
<tr>
<td>No change, children get around the rules</td>
<td>2</td>
</tr>
<tr>
<td>No Change Specified</td>
<td>1</td>
</tr>
<tr>
<td>Children are eating more salads</td>
<td>2</td>
</tr>
</tbody>
</table>

- No, when they bring their lunch, they bring the Cokes and the Cheetos and all those things that they’re not allowed to have or can’t purchase here at school.

- Um, not really because the ones that drink too much sugar or soft drinks still do. We don’t restrict what they bring in, so we have parents who stop by McDonalds and getting French fries and soft drinks and getting that to school, so … .Ok (probing from interviewer), if we were to say no to that, it might happen, no I haven’t noticed a change.

- Absolutely. The students choose salads for example. They like to eat salads. And um… that is something we have seen a big change in. The school district is providing more salads because children are selecting that.

A few mentioned that there wasn’t a problem previously or they were following the same guidelines prior to the policy, or as part of their developmental stage they choose to purchase more a la carte items. Others are eating more in the cafeteria.

- No, not really, they come in. Well, I don’t think it’s new. I think as they get older, we’ve got 6, 7, and 8th graders. I think as the students get older, part of what they do, to express their individuality, they tend to order more a la carte items in the 8th grade than they do in the 6th grade. And I just think that’s part of em growing away from the parents and express their own control over their lives.

There has been some noticeable change in students who buy food from the cafeteria because their menu has changed. Others are feeling more full from lunch; therefore, vending machines are not being utilized as they were before. Few respondents
mentioned that the students have been eating more fresh fruits or purchasing healthier snacks from vending machines.

- Our vending machines aren’t being utilized as much. I think they are getting their fill during lunch. And if anything, I think that what they are getting from the vending machine are pretty much reflective of what they are being served.

- Uh, the thing I’ve been seeing more is kids eating salads, which I never saw before. I see them eating more fresh fruit that is being offered, and I think this is good.

**Question Nine: Is there a focused nutrition curriculum taught in your school?**

Two participants responded that there was a focused nutrition curriculum taught in the school, one was through the health department. Another participant mentioned a new health curriculum through which nutrition will be taught. Two of the schools did not teach nutrition at all. Fifteen of the participants mentioned that nutrition was taught through health class, two through home economics, and the rest though random classes such as P.E and Science (Table 1).

<table>
<thead>
<tr>
<th>General focus of answer</th>
<th>No. of participants with similar answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Yes, though the health department, the other being “The healthy eating curriculum”</td>
<td>2</td>
</tr>
<tr>
<td>No, but Health class</td>
<td>15</td>
</tr>
<tr>
<td>Home economics</td>
<td>2</td>
</tr>
<tr>
<td>Science class</td>
<td>1</td>
</tr>
<tr>
<td>Skills for living class</td>
<td>1</td>
</tr>
<tr>
<td>Local hospital talks gives lectures to children on nutrition and healthy eating</td>
<td>1</td>
</tr>
<tr>
<td>Career development class</td>
<td>1</td>
</tr>
<tr>
<td>PE class</td>
<td>1</td>
</tr>
<tr>
<td>New curriculum though USDA Texas</td>
<td>1</td>
</tr>
</tbody>
</table>
• **And what might that be?** *(probing from interviewer)* Through our, uh, health department. **Okay. Um. did you have that before the policy or is that something new?** *(probing from interviewer)* It was in already before the policy, but we may stress it a little more now than before the policy.

• Healthy eating curriculum that we use, I don’t know the specific name of it, but it is she was throughout the elementary school and then the national health classes.

• Yes, through their health class.

• Uh, not at this time, but I did apply for something…just the other day. So when I got this phone call, I thought it might be them! This one has us working with our food service director and PE teacher and I think we get a kit for nutrition. So next year in health and PE class we can go over that with students. **Okay. And do you know what that was called?** *(probing from interviewer)* Uh… shoot. I gave it to my secretary. But the administration gave the sheet out to the whole school. It may be through the Department of Agriculture in Texas.

**Major Themes**

Major themes that arose from the analysis were: Role of parent vs. role of school in promoting healthful food choices among the children, school practices that has changed as a result to the policy, and how the school nutrition policy affected principals, teachers, and students’ practices, as can be seen in figure 1.

**Role of Parents verses School**

One of the themes that came up is role of school relative to the role of the parent in helping shape children’s nutrition related behaviors. Many of the principals thought it was the responsibility of the parent and not the school in promoting healthful food and nutrition behaviors in children. Food brought by the child from home, or brought in by parents was an additional issue to consider when planning SNP (15/24). Some parents also thought it was their responsibility and not the school’s to decide what their child can and cannot eat. This theme was repeated and brought up in almost all of the questions (7/9).
School Practices

There are several school practices that have a direct impact on children’s nutrition behaviors, such as vending machines, fundraisers and funding, parties, and food as reward. All of these concepts arose throughout the analysis on more than one incident.

How School Nutrition Policies Affect Stakeholders

There are many stakeholders; the major stakeholders in a school are principals, teachers, and students. The school is not just a building. It has many people, and the people in the building each have different roles. The policy affects each of these individuals in different ways as outlined below.

A. Teacher issues
   - Need training
   - Still want soft drinks

B. Student issues
   - More consideration to students and get them involved
   - Poor verses rich, difference in their access to FMNV
   - Adolescent developmental stage affects student choices, such as preference for FMNV
   - How the policy is directing students to have better nutrition

C. Principal issues
   - Need for close monitoring
   - Follow up with policies and regulations placed on the school district
Figure 1
Concept Map of Major Themes from Interviews with Middle School Principals about the Texas School Nutrition Policy
CHAPTER V. DISCUSSION

Three themes arose when studying the reaction to the implementation of the first year of the Texas School Nutrition Policy; the major theme was the role of parents relative to the school in shaping good food and nutrition behaviors among children. A majority of the principals expressed that parents are responsible for their children’s nutrition and food habits; whereas, the school has minimum affect if any. Another theme was school practices that have a direct impact on children’s nutrition, such as vending machines, fundraisers and funding, parties and food offered as reward. The third theme was how the school nutrition policy affects stakeholders, such as principals, teachers, and students. Some of the principals’ positive or negative beliefs about the school nutrition policy, influenced their reaction to the policy, as predicted by the theory of reasoned action (Ajzen & Fishbein, 1980). In other words, if they had positive beliefs about school nutrition polices, their responses would be more positive in nature. If they had negative beliefs about the policy, their responses would be more negative in nature.

The problem of childhood obesity needs to be addressed through societal level interventions rather than individual level interventions with schools being one of the most important entities involved in solving this problem (Schwartz & Puhl, 2003). Schools play an important role in helping children make the right food choices by offering easy access to healthful food choices and harder access to non-nutritive foods through school-based nutrition services (ADA Reports, 2006; Schwartz & Puhl, 2003). It is the position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association-Nutrition Service that school- based nutrition services be part of a synchronized and complete, school health programs, which are carried out
through a school nutrition policy (ADA Reports, 2003). Although a school nutrition policy has not been formulated yet at a national level, the school wellness policy to be implemented in the beginning of the 2006-2007 school year is a great step forward. This policy plays an important role in bettering the health and wellbeing of American children due to its collaborative effort in involving parents, students, school food authorities, school boards, school administrators, and the public (Pub L No.108-265 §204, 2004). This policy requirement also has a physical activity component working hand in hand with a food and nutrition component, which gives the policy a dualistic effect.

The thematic category questioning the role of parents verses the school in affecting children’s food and nutrition behaviors is of great relevance. Some researchers have studied the implications on childhood obesity of having both parents in the household work. Anderson and Butcher (2006) noted that households with both parents working have less time for preparing food. This may increase the consumption of pre-prepared foods and foods away from home, which may increase the probability of childhood obesity. Institute of Medicine of the National Academies (2004) promotes the importance of family meals in improving children’s dietary intake.

Institute of Medicine of the National Academies (2004) and Lindsay, et al. (2006) emphasize the role parents play in preventing childhood overweight and obesity arguing that parents shape a child’s environment, which includes a healthful eating and physical activity environment. This role is so important because parents are role models for positive food and physical activity habits. Their understanding and attitude towards nutrition influences what their children choose to eat at home, hence contributing to their child’s weight status. However, due the developmental transition of adolescents, middle
school children tend to focus more on their social environment, such as school and peers, than on their home and family. The developmental transition adolescents go through makes parents less able to influence their child’s behavior including their nutrition and physical activity behaviors (Lindsay, et al., 2006). Furthermore, parents tend to underestimate their children’s weight (Etelson, et al., 2003) making it even more important to find ways to educate parents on childhood obesity, its consequences, and ways to prevent it. These issues add to the school’s responsibility in providing children with the right environment and the right messages.

Vending machines operation changed as a result of the policy; this included time of operation and the type of snacks or beverages in the vending machines. Some campuses turned the vending machines on after school hours, or placed the vending machines in less convenient locations for the students. Some principals noted that peanuts, milk, juice and water were installed instead of pop and candy bars. The American Dietetic Association (ADA) promotes school nutrition policies that limit the consumption of carbonated beverages and competitive foods and promotes the consumption of milk and nutrient dense snacks in vending machines (ADA Reports, 2006). This is because foods offered in vending machines, such as sweetened carbonated beverages and calorie dense snacks, e.g. candy bars and chips, provide empty calories that just add to the problem of childhood obesity (Kramer-Atwood et al., 2002).

Many principals held training for teachers regarding the nutrition policy in schools, and the changes it involves. Others suggested the need for teachers to be enforcing the policy as well. Both are vital components to the success of the policy. One of the CDC guidelines for school health programs to promote lifelong healthy eating
(CDC, 2004a) is training staff members and teachers to be role models. Educators play a vital role in educating students on the need and importance of making the right food choices and nutrition behaviors. Nutrition training for teachers is also supported by the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association-Nutrition Service (2003).

The importance of not using food as reward or FMNV as reward is another area requiring training for teachers. Many of the principals said teachers were disappointed for not being able to use food as reward or incentive, especially in math and science classes. Others noted that a few of the teachers found ways to go around the policy, such as allowing the students to eat the reward after the end of the day. Promoting a healthful nutrition environment requires the need to address food used as rewards by teachers and school administrators according to a position paper published by the American Dietetic Association on local support for nutrition integrity in schools (2006). This report supports the importance of not using food as reward because foods usually used as rewards are high in saturated fats and sugars making them calorie dense. Furthermore, giving students competitive foods for something good that they’ve done, may be the only motivator they had in performing this achievement, which may washout similar performances if such foods are not offered as rewards in another situation. Additionally, when food is used as reward, children will start to favor those foods (Schwartz & Puhl, 2003). This may also apply to Foods of Minimal Nutritional Value (FMNV) used as rewards, which has an additional negative influence on the formation of good food habits in children. Using food as reward is one area that needs more attention. Rainville et al. (2006) reports that 55% of teachers and administrators use foods as rewards. Continuing
the use of food as reward makes it harder for the policy to achieve its purpose of improving the children’s health and nutrition status.

Another recommendation indicated by a few of the principals is to allow FMNV for birthdays, parties, or other special events. However, the current policy does allow FMNV or competitive foods on three different occasions throughout the year, after being approved by a school official. As for one respondent’s recommendation to allow food as an educational tool especially in math and science classrooms, if the food used abides by the policy, then it can be used for educational purposes. The ADA published a recent report indicating that the nutrition environment in schools should be supportive to healthy food choices (ADA Reports, 2003).

A very interesting concept, identified by one of the principals that supported the school nutrition policy in place, was the importance of involving the students in the decision making process, whether it be the foods served or the environment in which the food will be served in. This can be seen in the recommendations below, given by one of the principals to other states that may want to establish a similar policy:

- I would definitely recommend they get community involvement, especially with the students, because it is ultimately what the students are going to be eating. Making sure that their cafeteria is also inviting. Also, our district, I forgot to mention, also played another practical approach in that we redesigned many of our cafeterias to make them student friendly. We took a fast-food approach we now have booths and banners, and it’s very colorful. And our students enjoy eating there in the cafeteria. And again, our students had a major role in the design, and what kind of booths and chairs they wanted in the cafeteria. So pretty much you not only have to design the nutrition/food aspect, but you also have to take into account where they’re eating and make that inviting. And having the students eat at the cafeteria.

The USDA, Food and Nutrition Service, TEAM NUTRITION division implemented a project called ‘Making it Happen’ (2006), which studied 32 school
nutrition success stories of schools and school districts from across the United States. One of the approaches some of these schools used to promote healthy eating was to adopt marketing techniques that encouraged healthful choices. This included surveys that determined the children’s opinions on some of the healthful products that were to be installed and sold on school premises, sample testing of a variety of products, and involving students in healthful food marketing methods such as signs, contests, games, flyers, advertisements and banners. This project supports the suggestions given by the previously mentioned principal and gives practical solutions and methods of having a more successful nutrition policy in place.

The financial disparities among children is one theme that emerged in this study when principals were asked what recommendations they would give to those in other states that would want to establish a similar policy and when they were asked about their impression of how students felt about the policy or changes. Two of the principals explained that the effort should be focused on educating parents rather than mandating schools with nutrition policies because those that were affected the most were the children on free or reduced meals who were not able to access or afford FMNV outside school premises as did other students with fewer financial limitations. This was also noted in Probart, et al.’s (2006) recent study that students receiving free or reduced meals are less likely to be purchasing a la carte items, due to the cost of buying such items. However, some studies have shown that low income families tend to spend less money on food, which increases their consumption of energy dense foods high in added sugars and fats (Drewnowski & Specter, 2004). Low fruit and vegetable consumption associated with lower quality diets adds to the relevance of the existing nutrition
programs in schools, such as the national school and breakfast programs, not to mention school nutrition and wellness policies. When developing school nutrition policies, care must be taken to be sensitive to issues related to income disparities.

Due to the developmental transition of adolescents, adolescents tend to choose more a la carte items. The high sales of a la carte can be a contributor to the high total and saturated fat intake adolescents are consuming. The CDC’s (2000) school health policies and programs study explains that pizza, chips, ice-cream, cookies, and French fries are the top a la carte items. This explains the high fat and saturated fat intake by this age group as noted by Cavedeni et al. (2000) and Lin et al. (2001). The restriction of portion sizes or unavailability of these items all together, as stated in the Texas policy, is a great contributor to the lower consumption of such foods by adolescents. The reduction in portion size as a result of the Texas School Nutrition Policy can also impact energy balance in middle school children (Weber-Cullen & Thompson, 2005). The reduction in portion size was indicated by the principals when they were asked what changes took place in the school due to the policy; they stated that there has been a change in portion sizes and better regulation on the products that are sold in the school. This concept supports the notion that both parents and schools need to positively influence children’s dietary habits.

The results of this study showed that students are eating more salads, fresh fruits, and choosing healthier snacks that are available in vending machine. Many are eating more in the cafeteria, which is abiding by the school nutrition policy guidelines, therefore offering healthful foods choices to the students. Other children are feeling full after lunch, due to the consumption of nutrient dense foods, which lowers the sales of vending
machines after lunch. This in turn is all directing these children to healthier nutritious choices. By establishing nutrition standards in schools and making healthful foods and beverages more available to children, and limiting their access to competitive foods, whether it be in the school cafeteria, canteen, foods sold as fundraisers, or even foods offered as rewards, students learn the importance and benefits of positive dietary behaviors. These small steps all tend to convey healthy nutrition practices (CDC, 1996), enhance the child’s academic performance (Center on Hunger, Poverty, and Nutrition Policy, 1995; Kramer-Atwood et al, 2002) and have short and long term health effects on the child such as prevention of obesity, anemia, type 2 diabetes mellitus, and coronary heart disease (Torgan, 2002; CDC, 1996).

Monitoring is a continuous process that involves joint efforts from students, parent organizations, community groups, and staff members. The school principal is not the only person that should be held accountable for the implementation of the policy. Therefore, there should be an implementation strategy in place to assure that all parties are conducting reviews, assessing and evaluating the achievement of the policy. “School districts (including student and parent organizations, community groups, and partners as well as all staff) are accountable for full implementation of nutrition policies and standards”. This statement was stated by the California Department of Education (2006) in a recent report by the advisory committee on nutrition implementation strategies.

A few principals mentioned the burden of being able to keep up with the many responsibilities and laws put on the school district. As mentioned by the California Department of Education advisory committee on nutrition implementation strategies report (2006), all stakeholders play a role in the success and feasibility of the
implementation of school nutrition policies. Therefore, if parents, students, and community members unite their efforts, this leaves the school district and administration with fewer responsibilities, which makes the policy easier to implement and follow.

A number of advantages of the newly implemented school nutrition policy have been discussed by the principals, such as an increase in vegetable and fruit consumption, an increase in consumption of healthier snacks, baked chips and peanuts, and a decrease in vending machine purchases. These advantages confirm the importance of a supportive school environment, which conveys healthy nutrition practices allowing students the access to healthful foods. Therefore, the school does have a positive impact on children’s food and nutrition behaviors by changing their food environment as indicated by Schwartz & Puhl (2003).

The barriers to the successful implementation of the School Nutrition Policy were children finding alternative methods of access to competitive foods, such as bringing foods from home, purchasing foods from outside vendors, and parents bringing foods to their children. Furthermore, children and staff members are finding ways of going around the policy, which requires stringent monitoring methods as proposed by many of the principals. The Texas Public School Nutrition Policy indicated that schools may not provide access to FMNV or competitive foods on school grounds until after the last lunch period, and teachers may not provide these foods for instructional purposes during the school day (TDA, 2004). Monitoring of the Texas Public School Nutrition Policy is stated as follows:

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.

However, monitoring procedures and evaluation are not clarified in the policy, neither are timelines for compliance monitoring as can be seen in the above statement.

Scientifically based research provides proofs and new discoveries in the area studied. Research on the barriers and benefits of school nutrition policies are no exception and are necessary, as recommended by few of the respondents. The United States Department of Agriculture, Center for Disease Control and Prevention, and the American Dietetic Association, are few of the governmental and professional organizations that are performing continuous research in this area. Future research will further expand our nation’s knowledge and expertise in this area.

Giving more consideration to student inquiries and interests are one major component of the success of any nutrition policy. Involving the community by publicizing the policy, establishing public relations, and giving a longer pre-notification period are further suggestions provided by the principals. Finally, clarifying the benefits of the policy and providing more details as to what is and is not allowed in the policy is another component that principals thought needs to be addressed. Improving outreach provides the public with better understanding of the policy and its benefits. Educating parents on the importance of school nutrition policies in providing better health for their children is another issue of major concern. The USDA and CDC acknowledges the importance of community and parent involvement in reinforcing the health and nutrition messages the child hears and applies in school, as can be seen in the Family/Community Involvement Component of the coordinated school health program established by the CDC (2005b).
A few principals noted that changes in nutrition policies to be implemented in the future should be based on the Food Guide Pyramid and healthful food preparation methods. The Food Guide Pyramid and Healthy Guidelines for Americans are basic elements in the dietetics profession, which are used in any dietary intervention. Nutrition education for principals would help clarify their questions. A few of the participants pointed out the lack of the physical activity component in the school nutrition policy. However, in light of the new school wellness policy that is to be implemented in the beginning of the 2006-2007 school year, the physical activity component is one aspect of the School Wellness Policy under The Child Nutrition and WIC Reauthorization Act of 2004 that will be addressed and will go hand in hand with the positive nutrition environment enforced by the policy (Pub L No.108-265 §204, 2004).

A graded nutrition education curricula would be a good way to educate students on healthful food choices, and by educating students, teachers and parents will indirectly be influenced as well. Nutrition intervention programs, such as the 5-a-day program and the Child and Adolescent Trial for Cardiovascular Health (CATCH) have been found to be successful in improving the nutritional status of children, lowering their fat and cholesterol intake (Luepker, et al. 1996), and increasing their fruit and vegetable intake (Perry, et al., 1998).

Another research finding of this study was misinterpretations by principals of a number of questions. When the principals were asked about the teacher’s opinion of the policy, some misinterpreted the purpose behind the question by replying that teachers bring their own lunch, or they can still have access to soft drinks. However, two principals replied that teachers were eating more in the cafeteria with the kids and that
was a positive step forward taken by the teachers, who act as role models for their students. On that note, when principals were asked if they noticed any different food or nutrition behaviors with students, one principal humorously replied that the students were still throwing food. This was an interesting point although the respondent missed the point behind the question. This research finding also leads to the understanding that principals need more nutrition education in order to fully understand the nutrition policy in place and the reasons behind its relevance.

The limitations of the study included the inability of the researchers to get the full sample they had initially planned, thus the sample does not include principals from all the regions in Texas. Many of the principals were very busy, which make it hard to interview them or schedule an appointment for an interview. Some declined to be interviewed, either because they were busy, or for some other reason(s), which they did not indicate. The implication associated with this limitation would be the inability to generalize the results of this study. However, the goal of qualitative research is not to generalize but to expand the range of knowledge and understanding of the situation within the context of the study by providing a rich description of the situation from the participant’s perspective, helping researchers see why something is the way it is, rather than just presenting it the way it is (Monsen, 1994).

Many of the principals did not seem to understand all the guidelines pertaining to the policy. For example, when one principal was asked what changes he would do to the policy if he had the chance, he replied that he would allow the students access to juice and water machines whenever they wished. “I can understand the soft drink machines being removed, but I can’t understand them putting limits on the water purchasing and
the juice purchasing, you know all those machines have to be turned off during the lunch period”. There is no limit to water purchasing in the policy, and the sale of non-carbonated, unflavored bottled water is unlimited. As for juice, the portion size is limited. Committee on Nutrition (2001) limits the consumption of juice to 8-12 oz or 2 servings per day. Whole fruit is preferred over juice because it is higher in fiber and consuming one fruit compared to one cup of juice provides fewer calories, more micronutrients, and takes more time to digest and absorb thus improving both satiety and modulating the blood sugar response. However, most children of this age do not get adequate calcium (Cavedini, 2000), thus adding milk to vending machines would be a good option for schools. Therefore, more nutrition education is also necessary for principals to understand the importance of providing milk to students rather than juice, in addition to understanding the concept and relevance behind each guideline in the nutrition policy.

One or two respondents’ replies were very short and answered with a yes or no without further clarification. After transcribing the interviews and coding the interviews, the researcher felt that these principals were intimidated by the interview, especially when one principal jokingly commented that he hoped the interview won’t be used against him. It is also possible that maybe these principals did not like answering questions. This may have lead to the participants’ not expressing all their beliefs or thoughts regarding the policy. These misinterpretations made it hard for the researcher to use the principal’s response in that specific question to fulfill one of the objectives of the study.
The implications of the Texas Public School Nutrition Policy from the principal’s perspective in this qualitative study revealed that more than half (63%) of these principals are unaware of the benefits of the policy, laying the responsibility of children’s unhealthful food and nutrition behaviors on the nutritional behaviors followed at home. At the same time, almost 35% of the participant thought it was a good policy or had some good in it. Many school practices were positively affected, such as the lower sales and time of operation of vending machines and the limit in the use of FMNV and competitive foods in school parties, school fundraisers and food used as reward by teachers and administrators. The results also show that from the principals’ perspective, teachers need more nutrition education training, students need to be more involved in decision making, and principals and other government and health professionals need to find ways to closely monitor and evaluate the current nutrition policy in place. Furthermore, taking a close look at what foods parents are offering to their children at home and school, if their lunch is packed, is something to consider when evaluating the success of the current nutrition policy in place. The defined themes provide a good understanding of the benefits and barriers of the policy. In addition, the emerging new themes, such as the role of the school verses role of parents in affecting children’s nutrition behaviors, are issues to study and consider for future research.
CHAPTER VI. IMPLICATIONS FOR RESEARCH AND PRACTICE

The many themes that arose from this study provide professionals with many of the advantages and barriers to the policy. This provides good grounds for future research. For example, future research on how parents shape children’s eating habits compared to schools is needed. Nutrition intervention program should target parents and aiming at increasing their knowledge in food and nutrition in order to positively influence their children’s behaviors. Finally, future research should focus on the nutritional status of children in Texas after the implementation of the school nutrition policy in 2004.
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APPENDIX A

TEXAS 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.

III. **ELEMENTARY SCHOOLS**

For purposes of this policy, an elementary school campus is defined as any campus containing a combination of grades EE-6. K-12 schools may follow the policy requirements designated for middle and junior high schools.

A. **Foods of Minimal Nutritional Value (FMNV) Policy**

Elementary 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 the end of the last scheduled class. For exemptions and a listing of foods and beverages restricted by the FMNV policy, see Section VI (below).

Such foods and beverages may not be sold or given away to students on school premises by school administrators or staff (principals, coaches, teachers, etc.), students or student groups, parents or parent groups, or any other person, company or organization.

B. **Nutrition Standards:**

The following specific nutrition standards pertain to all foods and beverages served or made available to students on elementary school campuses. This includes school meals, a la carte and the nutritious classroom snacks.

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 once 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, à 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, jerky and 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>Item</td>
<td>Serving Size</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------</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) may contain no more than 30 grams total sugar per 8 ounce serving. No limit on non-carbonated, unflavored bottled water.</td>
<td>12 ounces</td>
</tr>
<tr>
<td>Frozen fruit slices (must contain a minimum of 50 percent fruit juice)</td>
<td>6 ounces</td>
</tr>
</tbody>
</table>

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) It is the goal of this policy that all beverages served in elementary schools would be milk, unflavored water and 100 percent fruit and/or vegetable juice by the start of the 2006-07 school year.

d) Schools serving chips should use reduced fat (no more than 5 grams of fat per ounce) or baked varieties whenever possible.

C. Competitive Foods and Snacks

An elementary school campus 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 does not pertain to food items made available by the school food service department.

Elementary classrooms may allow one nutritious snack per day under the teacher’s supervision. The snack may be in the morning or afternoon but may
not be at the same time as the regular meal periods for that class. The snack may be provided by the school food service, the teacher, parents or other groups and should be at no cost to students.

The snack must comply with the fat and sugar limits of the Public School Nutrition Policy and may not contain any FMNVs or consist of candy or dessert type items (cookies, cakes, cupcakes, pudding, ice cream or frozen desserts, etc.). Please refer to the attached revised suggestions for nutritious snacks.

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, à 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, jerky and 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</td>
<td>16 ounces</td>
</tr>
</tbody>
</table>
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.

V. HIGH SCHOOLS

For purposes of this policy, a high school campus is defined as any campus containing a combination of grades 9, 10, 11 and 12. K-12 schools may follow the policy requirements designated for middle and junior high schools.
A. Foods of Minimal Nutritional Value (FMNV)

1. **Policy:** High schools may not serve or provide access to FMNV during meal periods in areas where reimbursable meals are served and/or consumed. For exemptions and a listing of foods and beverages restricted by the FMNV policy, see Section VI (below).

   New contracts and contract renewals executed after March 3, 2004, must expressly prohibit the sale of sugared, carbonated beverages in containers larger than 12 ounces.

2. **Goal:** It is the Texas Department of Agriculture’s goal that, by the 2005-06 school year, no more than 30 percent of the beverages made available through vending machines on high school campuses should be sugared, carbonated soft drinks. Furthermore, it is our goal to limit sugared, carbonated beverages to containers holding no more than 12 ounces.

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 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, 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>1.25 ounces</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, jerky and 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, jello and pudding</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. No limit on non-carbonated, unflavored bottled water.</td>
<td>12 ounces</td>
</tr>
<tr>
<td>Candy bars and packaged candies.</td>
<td>1.5 ounces</td>
</tr>
<tr>
<td>Frozen fruit slushes (must contain a minimum of 50 percent fruit juice)</td>
<td>12 ounces</td>
</tr>
</tbody>
</table>
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

High schools may not serve or provide access to competitive foods during meal periods in areas where reimbursable meals are served and/or consumed. This does not pertain to food items made available by the school food service department. All competitive foods sold or provided to students must meet the nutrition standards listed in Section V, B (above) of this policy.
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

STUDY INSTRUMENT
**Process Information**

Interviewer:  
School Region:  
Random number of school within region:  
School Name:  
Principal (or assistant principal) Name:  

**School Calls:**  
Date/time 1st Call: ______________ 2nd Call: ______________ 3rd Call: ______________

Notes/comments/Date/time set to speak with principal (or assistant principal):  

Please keep track of refusals so we can calculate response rate. *If refusal from principal: indicate reason:*

- _____ Not interested in participating in survey  
- _____ No time for survey  
- _____ Principal not available (out of town, etc)  
- _____ Other, specify  
- _____ No answer at this number more than 3 times.

**Food Service Directors Name/phone number:** __________________________

**Script for contact with secretary:**

*Hello. 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. We’re conducting telephone surveys with middle school (or Jr High or Intermediate) principals. Is this a good time (to connect me) or can I set up an appointment for a call?*  

NOTE: sometimes principals answer the phone – but this intro works for them too, just modify the beginning of the principal survey if that is the case.

******************************************************************************

**Script for contact with principal:**

*Record start time/date:*  

*Hello (say principal’s 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 school nutrition policy. It will take 15-20 minutes. Is this a good time to talk or should I call back? PAUSE for response*
We're doing this survey in schools all across Texas.

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

For research purposes only, our conversation will be taped. The tapes will be kept confidential.

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

The nutrition in policy states that schools:

- 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 did your school do to comply with the policy?

2. What is your opinion of the policy? (use the follow up questions only if needed – or paraphrase both positive/negative things…)
   
   a. In your opinion, what are the positive things about the new Texas School Nutrition Policy? (positive beliefs)

   b. What are the negative aspects of the policy? (negative beliefs)

3. Have you encountered any problems (your school) with the implementation of the policy? (social norms)

4. If you could change the policy what would the changes be?

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

6. What is your impression of the financial impact on the school due to the new policy? (negative/positive belief)

   a. If negative, has the school been able to compensate for the decreased funding?
   b. How?
   c. If positive, can you tell me how the funds are being used?

7. Now I want to get your opinion of the reaction of other stakeholders
a. Overall what is your impression of how students felt about the policy/changes? *(normative beliefs)*

b. What feedback have you gotten from parents about the new regulations? *(normative beliefs)* How many parents have you heard from? (we want to know if many or few parents…)

c. How many students are there in your school?

d. What have you heard from teachers about the nutrition policy? *(normative beliefs)*

e. Has anyone else in the community reacted?
   i. If so who?
   ii. And How? *(normative beliefs)*

8. Have you noticed any different food or nutrition behaviors with students?

9. Is there a focused nutrition curriculum (not general health education) taught in your school?
   a. If so, what is it?
      i. CATCH (Coordinated Approach To Child Health)
      ii. Great Body Shop
      iii. Bienestar
      iv. Healthy and Wise
      v. Other (specify if possible)
   b. Did you have that curriculum before the policy?

10. How many students are in your school?

**Closing script:**

*Thank you very much for your time. I appreciate your comments. Do you have any questions?*

*Is there anyone else who is most likely to hear complaints or praises of the new policy we should call? (get name and phone #)*

*** Get the name and number of the Food Service Director - Ask to be connected with the secretary if necessary

************************************************************************* 

* 

Script for contact with secretary:
*I’ve just completed the interview with the principal. Can you please tell me the name and phone number of the person who is the food service director for your school? (note:*
prefer the person who directs food service for the entire school district over the building FS manager)

Name of Food Service Director: 

Phone number of Food Service Director: 

When is she available for a phone call (if known)? 

APPENDIX C

TABLE OF DATA ANALYSIS
**Table of Data Analysis**

**Question 1:** What did your school do to comply with the policy?

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Staff awareness about policy</td>
<td>• Student awareness about policy</td>
</tr>
<tr>
<td>• Teachers still want vending machines</td>
<td>• Restrict food sharing</td>
</tr>
<tr>
<td>• Change party format (2)*</td>
<td></td>
</tr>
<tr>
<td>• Training teachers (3)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vending Machines</th>
<th>FMNV** and Candy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Change/ removal in the type of beverage and/or snack in vending machines (11)</td>
<td>• Stopped selling FMNV and candy</td>
</tr>
<tr>
<td>• Operation time of vending machines (9)</td>
<td>• Adhered to what they could and couldn’t have</td>
</tr>
<tr>
<td>• Replacement of vending machines</td>
<td>• FMNV from vending sold after lunch only</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cafeteria</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Menu changed (took out, substituted items, or limited) (7)</td>
<td>• Did what the policy required (4)</td>
</tr>
<tr>
<td>• Change in cafeteria and things to abide by (3)</td>
<td>• Change in snacks brought in by parents</td>
</tr>
<tr>
<td>• Beverages allowed are milk, bottled water and Gatorade</td>
<td>• Prohibited foods brought in by parents only allowed for their children</td>
</tr>
<tr>
<td>• Portion control (4)</td>
<td>• Change in fundraisers or the times it is held (2)</td>
</tr>
<tr>
<td>• Several purchases from line are limited to specific items</td>
<td>• Informed different parties involved about the policy and it’s enforcement (2)</td>
</tr>
<tr>
<td>• Hung flyers</td>
<td>• Restrict times they were allowed in the hallway where there is a vending machine</td>
</tr>
<tr>
<td>• Made sure students received all items included in their lunch</td>
<td>• No longer give food as rewards</td>
</tr>
<tr>
<td>• Nutritionist is available to make sure issues are met in cafeteria &amp; snack bars</td>
<td>• Formed a committee including all parties</td>
</tr>
<tr>
<td></td>
<td>• Regulate products that are sold</td>
</tr>
<tr>
<td></td>
<td>• Change in what could be served</td>
</tr>
<tr>
<td></td>
<td>• Holidays for when prohibited foods could be sold</td>
</tr>
</tbody>
</table>

* The number in parenthesis indicates how many principals had a similar response to the one indicated beside the number.

**FMNV** **and Candy**

**Foods of Minimal Nutritional Value**
**Question 2:** In general what is your opinion of the policy?

| No opinion, neutral, or no problem with it | • No opinion or no problem with it (4)  
• Knows the reasons or the principle behind it (2) |
|-------------------------------------------|------------------------------------------------------------------|
| Positive | • It’s a good policy or has good in it (8)  
• Get the kids to eat more healthy  
• No fried food  
• ↓ Obesity and obesity related diseases or because kids are overweight (6)  
• ↓ FMNV (2)  
• Health-wise (3) |
| Negative | • Simply negative  
• See some bad things in it  
• Not satisfied with it  
• Too much junk food in it  
• Think it’s silly (2)  
• Not effective  
• Unable to send cookies or cupcakes for breakfast or birthdays  
• Affected schools’ fundraisers  
• Can’t see any change, can’t see difference in their eating habits or don’t think the policy can solve the problem of overweight or schools are not what feed the kids unhealthy food because they can bring from home, parents can bring, or schools are not the source of obesity (6)  
• Schools can’t afford the replacements such as fresh fruit  
• Not many kids eat from cafeteria and with limitations gets worse  
• Difficulty in enforcing it, parents bring in food (2)  
• Can’t see any benefit from it |
| Principals interpretation of policy | • Trying to make junk food unavailable for kids  
• Unhealthy food items that don’t fall under the policy are still available  
• Claim that kids don’t eat healthy yet provide them with FMNV, so it’s a good policy  
• Based on research it is necessary |
| Concern regarding students | • Children may end up eating nothing  
• Some kids have breakfast and lunch at school and no supper so it’s good  
• They have no choice but to eat healthy food either from home or school lunch  
• Can’t tell kids what to eat and is a battle to convince them not to eat certain items (2)  
• Have a problem with child nutrition but policy can’t solve it.  
• The children don’t eat too much FMNV, unless the parents provided it |
**Question 3:** Have you encountered any problems (your school) with the implementation of the policy?

<table>
<thead>
<tr>
<th>Neutral, Occasionally, nothing major</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>(12)</td>
</tr>
<tr>
<td>Yes</td>
<td>(2)</td>
</tr>
</tbody>
</table>
| Other | • Inconvenience  
• New  
• Limitations and restrictions, food as reward  
• Parents bring in food, admin has to remind them of policy (especially birthdays) (3)  
• Some people have complained  
• Schools and school districts have to keep up with the changes (2)  
• Revenue from vending machines  
• No more fundraisers during lunch  
• Kids complained about restrictions, wanted coke products in the beginning, or asked for restricted snacks (3)  
• Food from home or brought in from parents shared with other children (2)  
• Don’t think the policy is changing students’ eating habits.  
• Kids bringing food from outside.  
• Classroom parties |
**Question 4:** If you could change the policy what would the changes be?

| Not sure or Opinion of present policy | • Ridiculous  
• Don’t know or not sure (2)  
• More flexibility  
• Hasn’t changed much  
• Problem lies at home and what they are eating at home and not at school  
• No changes or leave it the way it is (4)  
• Remove it, parents responsibility what their children eat, schools are not responsible for childhood obesity (2) |
| Drinks | • Access to juice and water machines whenever they wish to  
• Have the old drinks be purchased at lunch |
| Student behavior | • Too much attention given to what students eat  
• If the kids want it they will bring it with them, it needs to be more of an educational effort  
• Educate parents, change needs to start at home |
| Lunches | • Change cafeteria lunch, too much starch in it  
• Regulate how much a child can buy at lunch  
• Cook foods that kids would eat  
• Increase portion size  
• Change time constraints to which food can be served  
• Being stricter on high fat foods, beverages, and concession foods |
| Snacks | • Return some of the snacks |
| Vending machines | • Need funds from vending machines, some after school programs involve adults |
| Parties, birthdays, or other | • FMNV should be allowed for birthdays, parties, or other special events (2)  
• It’s a collaborative effort between the parents first and the school  
• Stricter policies, teachers need to enforce the policy as well |
**Question 5:** What recommendations would you make to those in other states who would want to establish a similar policy?

<table>
<thead>
<tr>
<th>Negative</th>
<th>Positive</th>
<th>Neutral</th>
<th>Nutrition reasons</th>
<th>Local authority reasons/Community</th>
<th>Exceptions</th>
</tr>
</thead>
</table>
| • Do not do it  
• Be less strict  
• Reason behind the children being overweight is what they eat at home and not at school  
• Educate parents and do not mandate schools with such policies  
• Will not achieve their goal by such a SNP | • Research such as this before applying policy  
• Shut down VM until after lunch  
• Design cafeterias to be more student friendly and inviting  
• They should establish a similar policy | • No recommendations given or cannot answer (2)  
• More attention to restrictions mandated in the policy  
• Children still in developmental stage and cannot make the right decisions  
• Children’s dietary habits depends on what they are exposed to at home  
• Publicize it  
• Take a good look at this one  
• Establish a policy that requires the kids to be more active  
• Allow three waiver days on occasions  
• Get every state to go through with a similar policy  
• Communicating with the school, students, and parents.  
• Give more consideration to the students  
• Make sure public understands the health benefits behind the policy  
• Put stringent guidelines so no affected party can go around the policy one way or another | • Give more attention to what is served to the kids at lunch (2)  
• What the kids have access to  
• Abiding by the guidelines  
• Do more research  
• Monitor what is served and what the children have access to  
• Educate parents on healthful food choices and its affect on their children  
• Re-evaluate portion sizes and the disparities from one child to another (2)  
• Base changes on food guide pyramid and healthful food preparation methods  
• What is and is not allowed does not make much sense  
• They will not reach their final goal by means of such a SNP  
• Allow exceptions or give more attention to children with special health conditions such as diabetes | • PR with community  
• Be more involved with community especially students | • Couple of days designated for parties or special occasions |
<table>
<thead>
<tr>
<th>Learning reasons</th>
<th>Allow food as an educational tool, especially in math and science classrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Give a longer pre notification</td>
</tr>
<tr>
<td></td>
<td>Mostly affected students on free or reduced, many other children bring their own lunch</td>
</tr>
</tbody>
</table>

**Question 6:** What is your impression of the financial impact on the school due to the new policy?

<table>
<thead>
<tr>
<th>Not sure, No or negligible impact</th>
<th>(12)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative impact</strong></td>
<td>(11)</td>
</tr>
<tr>
<td>• Discretionary Activity funds budget affected (7)</td>
<td></td>
</tr>
<tr>
<td>• Food waste</td>
<td></td>
</tr>
<tr>
<td>• Lack of sales</td>
<td></td>
</tr>
<tr>
<td>• Some classes will have more money than other classes</td>
<td></td>
</tr>
<tr>
<td>• Non funded mandate health program for students</td>
<td></td>
</tr>
<tr>
<td>• Employee trainings affected</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National perspective</th>
<th>Rely on vending machines to provide dependence incentives and fundings for children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bigger financial impact as a result of non compliance with policy</td>
</tr>
<tr>
<td></td>
<td>Big districts are trying to negotiate exclusive arrangements with coke &amp; pepsi</td>
</tr>
</tbody>
</table>
**Question 7**: Now I want to get your opinion of the reaction of other stakeholders
Overall what is your impression of how students felt about the policy/changes?

| Negative                                                                 | • Did not like it, shocked, Irritated or angry (12)  
|                                                                         | • Think it’s too strict  
| Neutral                                                                 | • Did not impact them (5)  
| Students adjusted rather fast or learn to live with it                  | • (8)  
| Accepted or like it                                                     | • (3)  
| Alternatives                                                            | • Buy other drinks just as much  
|                                                                         | • Food from home (4)  
|                                                                         | • Buying food from outside (3)  
|                                                                         | • Bulge eating when get back home  
|                                                                         | • Cheese and yogurt machines were installed  
| Eventually get used to it because they have to                          | • (4)  
| Different food and nutrition behavior                                   | • No (3)  
|                                                                         | • Newly evolved disparities between poor and rich students and their access to FMNV  

**Parents**

| No                                                                 | (11) started packing their children’s lunch (2)  
| Yes                                                                 | • Birthdays or special occasions is a problem (3)  
|                                                                         | • Did not like it especially in the beginning (3)  
|                                                                         | • Upset because it’s their responsibility to decide what their children can and can’t eat (2)  
|                                                                         | • Accepting or supportive parents (2)  
|                                                                         | • Don’t believe the policy can achieve its purpose  
|                                                                         | • They want their children to eat more  

### Teachers

<table>
<thead>
<tr>
<th>No</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Can’t use as reward or incentive (2) (stickers, pencils, anything that motivates the students).</td>
</tr>
<tr>
<td></td>
<td>Supportive</td>
</tr>
</tbody>
</table>

| Yes | • Wish it was more strict  
• Can’t use food as reward or incentive (5)  
• Can’t cook  
• Reward can be eaten after end of the day  
• More creative ideas as alternatives  
• Skepticism (3)  
• Didn’t like it but had no choice  
• New and different  
• Turn parents requests for birthdays down  
• Supportive |

| Misinterpretation | Teachers bring their lunch  
Teachers can still get soft drinks  
Fundraising until after last lunch  
More responsibility and tasks on the school district to follow  
Limited portions and selections  
Eat more in cafeteria with kids (2) |

### Community

<table>
<thead>
<tr>
<th>No</th>
<th>(16)</th>
</tr>
</thead>
</table>

| Yes | • Complains about the mandate from the state  
• Through the media (3)  
• Positive reaction |

| Don’t know | (1) |

| Accepted it/ supported it | (2) |
**Question 8:** Have you noticed any different food or nutrition behaviors with students?

<table>
<thead>
<tr>
<th>No change</th>
<th>(12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No previous problem</td>
<td></td>
</tr>
<tr>
<td>• Foods brought in from outside (3)</td>
<td></td>
</tr>
<tr>
<td>• Foods brought in from home or from parents (6)</td>
<td></td>
</tr>
<tr>
<td>• Still throwing food</td>
<td></td>
</tr>
<tr>
<td>• Eat more after school because they’re hungry</td>
<td></td>
</tr>
<tr>
<td>• They get around the rules (2)</td>
<td></td>
</tr>
<tr>
<td>• Following same guidelines even before policy</td>
<td></td>
</tr>
<tr>
<td>• Part of their developmental stage, more a la carte</td>
<td></td>
</tr>
<tr>
<td>• Eating more in cafeteria</td>
<td></td>
</tr>
<tr>
<td>• Changed in students who buy food from vending machines or the concession stand and eat the food in the cafeteria</td>
<td></td>
</tr>
<tr>
<td>• Full from lunch, vending machines aren’t being utilized as much</td>
<td></td>
</tr>
<tr>
<td>• Eating more salads (2)</td>
<td></td>
</tr>
<tr>
<td>• Eating more fresh fruits</td>
<td></td>
</tr>
<tr>
<td>• Healthier snacks chosen from vending machines</td>
<td></td>
</tr>
</tbody>
</table>

**Question 9.** Is there a focused nutrition curriculum taught in your school?

<table>
<thead>
<tr>
<th>No but</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Health class (15)</td>
<td></td>
</tr>
<tr>
<td>• Home economics (2)</td>
<td></td>
</tr>
<tr>
<td>• Science class</td>
<td></td>
</tr>
<tr>
<td>• Skills for living class</td>
<td></td>
</tr>
<tr>
<td>• Local hospital talks to kids about nutrition and healthy eating</td>
<td></td>
</tr>
<tr>
<td>• Career development class</td>
<td></td>
</tr>
<tr>
<td>• Through the health department</td>
<td></td>
</tr>
<tr>
<td>• Through PE class</td>
<td></td>
</tr>
<tr>
<td>• New curriculum through USDA Texas</td>
<td></td>
</tr>
</tbody>
</table>

| No | (2) |