WHAT ARE ELEMENTARY SCHOOLS (K-5) IN OHIO DOING TO COMBAT CHILDHOOD OBESITY?

By Lindsey Shea Snyder

This paper reports on what is happening in elementary schools, serving grade levels kindergarten through grade five in the state of Ohio, to combat the problem of childhood obesity. This study used the SHPPS survey, developed and implemented by the CDC. This allowed for comparison between data collected in this study and data collected at the national level by the CDC. The survey asked questions about health education, physical education, food services and health services offered by the school. Analysis of the data showed that in many areas, Ohio schools are comparable to the rest of the schools in the nation in taking measures to combat childhood obesity. However, in some areas, participating schools were far behind the national averages. The specific results, implications of the findings and the limitations are also discussed.
WHAT ARE ELEMENTARY SCHOOLS (K-5) IN OHIO DOING TO COMBAT CHILDHOOD OBESITY?

A Thesis

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By
Lindsey Shea Snyder
Miami University
Oxford, Ohio
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Advisor _______________________________________
Susan Cross Lipnickey

Reader _______________________________________
Keith J. Zullig

Reader _______________________________________
Thelma S. Horn
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DEDICATION

I dedicate this work to Adam and our families. Without your love and support I would not have made it through. It is because of all of you that I have been able to accomplish so much. Thank you.
ACKNOWLEDGEMENTS

I would like to extend my thanks and appreciation to my advisor, Dr. Susan Cross Lipnickey, and my committee members, Dr. Keith Zullig and Dr. Thelma Horn. Without your help and guidance this would not have been possible.
CHAPTER ONE

Introduction

The purpose of this study is to examine elementary schools (K-5) in Ohio to see what efforts are being made to combat childhood obesity. Obesity is a growing problem in among all segments of the U.S. populations. Not only are 60 million adults, age 20 years and older, obese, but the number of overweight children and teens in this country exceeds nine million (Overweight and Obesity: Home, 2005). The Centers for Disease Control and Prevention’s Division of Adolescent and School Health states that overweight children are more likely to grow to be overweight or obese adults (Physical Activity and the Health of Young People, 2005). In the United States, 16% of children and adolescents, ages 6-19, are considered overweight; a number that has tripled since 1980 (Overweight and Obesity: Home, 2005).

There is a vast array of research that has been conducted in the area of childhood obesity (Childhood Obesity, 2005; Nutrition and the Health of Young People, 2005; Overweight and Obesity: Contributing Factors, 2005; Overweight and Obesity: State-Based Programs, 2005; Physical Activity and the Health of Young People, 2005; Grunbaum, et al., 2004; Hill & Trowbridge, 1998; Koplan, Liverman & Kraak, 2005; Lin, Guthrie & Frazao, 2001; Veugelers & Fitzgerald, 2005). The conditions of overweight and obesity are caused by an energy imbalance. Today children are taking in more calories than they are expending (Overweight and Obesity: Contributing Factors, 2005). People are developing unhealthy eating habits and passing it onto their children (Nutrition and the Health of Young People, 2005; Overweight and Obesity: Contributing Factors, 2005; Lin, et al., 2001). Obesity is not only caused by poor dietary habits, but also lack of physical activity. Lack of physical activity and exercise is becoming more common in America’s youth (Childhood Obesity, 2005; Overweight and Obesity: Contributing Factors, 2005; Physical Activity and the Health of Young People, 2005; Physical activity levels among children aged 9-13 years, 2003; Grunbaum, et al., 2004). Unhealthy eating habits and lack of physical activity do not only lead to overweight or obesity, but they lead into a host of other health problems, as well. Type II diabetes, coronary heart disease, and stroke are only a few of the physical ailments that may develop as a result of obesity (Childhood Obesity, 2005; Overweight and Obesity: Home, 2005). Obesity during childhood increases the chance of the development of these problems in adulthood, and in some cases causes an early onset (Physical Activity and the Health of Young People, 2005).
Research has shown that school programs that embrace the Centers for Disease Control and Prevention’s (CDC) suggested guidelines for nutrition and physical activity have been effective in the prevention of childhood obesity (Veugelers & Fitzgerald, 2005). The CDC developed a state-based program to help prevent obesity by targeting poor nutrition and low levels of physical activity. Currently 28 states are participating in this program, and Ohio is not one of them (Overweight and Obesity: State-Based Programs, 2005). Ohio demographic data show there are more than 1.5 million children ages 5-14 years, and nearly 1.4 million are enrolled in kindergarten and elementary school (Ohio General Demographic Characteristics: 2004, 2004). Ohio is ranked fourth in overweight teens at 13.9%, and is the 33rd highest state for overweight children (age 2-5 years) from low-income families at 11.1 percent (Trust for America’s Health, 2005).

Combating childhood obesity must be a comprehensive effort among government, schools, community, family and the individual. Children in the United States spend about seven hours per day in school. Educating children on proper nutrition and exercise is a major responsibility of the schools (Hill & Trowbridge, 1998; Koplan, et al., 2005; Sutherland, et al., 2004). However, many school environments are counterproductive; offering unhealthy food choices, providing vending machines with unhealthy drinks and snacks, and reducing or eliminating physical education (Food and Beverages Sold Outside of the School Meal Plan, 2005; Food Services, 2005; Physical Education and Activity, 2005). The School Health Policies and Programs Study (SHPPS) found that 98.2% of high schools surveyed, as well as 73.4% of junior high schools and 43% of elementary schools, had vending machines or a canteen where students could purchase food and beverages during the school day. When looking at food and drink options available in the vending machines, SHPPS found that 76.3% of the vending machines had soft drinks, sport drinks, and fruit drinks. Salty snacks and baked goods (not low in fat) were found in 63% of school vending machines or canteen areas (Food and Beverages Sold Outside of the School Meal Plan, 2005).

Research has shown us that school based programs for nutrition and physical activity can be effective. However there is an obvious need to conduct more research on what schools are actually doing to help prevent the growing problem of childhood obesity and what school based initiatives, if any, are being used. Combating childhood obesity must be a comprehensive effort. There is a need for a uniform intervention source. Schools are an obvious choice for
intervention due to the number of children that attend public and private schools, the number of hours children spend there and the impact that education related to nutrition and exercise can have on a young child (Hill & Trowbridge, 1998; Koplan, et al., 2005; Sutherland, et al., 2004).

It is the purpose of this study to inquire as to what elementary schools in the state of Ohio are doing to combat childhood obesity. This study looked at elementary schools that serve only grades kindergarten to grade five. This study used the SHPPS survey, developed and implemented by the CDC. This allowed for comparison between data collected in this study and data collected at the national level by the CDC. The survey asked questions about health education, physical education, food services and health services offered by the school.

To provide context for this study, a complete review of the relevant literature was conducted and is summarized in the next section.
CHAPTER TWO
Review of Literature

Childhood Obesity

Childhood obesity is a growing epidemic in the United States. A considerable amount of research has been conducted in recent years that shows the growing numbers of children with weight problems (Childhood Obesity, 2005; Nutrition and the Health of Young People, 2005; Overweight and Obesity: Contributing Factors, 2005; Overweight and Obesity: State-Based Programs, 2005; Physical Activity and the Health of Young People, 2005; Grunbaum, et al., 2004; Hill & Trowbridge, 1998; Koplan, et al., 2005; Lin, et al., 2001; Veugelers & Fitzgerald, 2005). The growing prevalence of obesity in the past two decades is both alarming and unnecessary. Society is moving in an unhealthy direction relating to eating habits and it is being passed onto the younger generations (Nutrition and the Health of Young People, 2005; Overweight and Obesity: Contributing Factors, 2005; Lin, et al., 2001). However, obesity is not a problem that is caused simply by poor dietary behavior, but also stems from inactivity. Lack of physical activity and exercise is becoming more common in America’s youth (Childhood Obesity, 2005; Overweight and Obesity: Contributing Factors, 2005; Physical Activity and the Health of Young People, 2005; Physical activity levels among children aged 9-13 years, 2003; Grunbaum, et al., 2004). Children no longer spend hours outside playing, but rather sit idly for hours in front of the television, computer, or in front of one of many video game systems. Children’s issues with weight reflect the eating habits and entertainment choices of society (Physical Activity and the Health of Young People, 2005; Physical activity levels among children aged 9-13 years, 2003; Lin, 2001).

Obesity increases the likelihood of serious health complications and disease. Type II diabetes, coronary heart disease, and stroke are only a few of the physical ailments that may develop as a result of obesity (Childhood Obesity, 2005; Overweight and Obesity: Home, 2005). Obesity during childhood increases the chance of the development of these problems in adulthood, and in some cases causes an early onset (Physical Activity and the Health of Young People, 2005). Children also are prone to psychological and emotional problems related to being overweight or obese. Some of the psychological and emotional problems that children face deal
with issues around self-esteem and body image. Weight is becoming a battle for many children and adolescents, and many of them are taking unnecessary and unhealthy measures to lose weight or prevent weight gain (Grunbaum, et al., 2004). Many schools offer treatment, prevention and counseling for different eating disorders or behaviors. Twenty-five percent of schools reported offering treatment for eating disorders, while 43.7% employed some sort of prevention for eating disorders. And nutrition and dietary behavior counseling was said to be available in 55.3% of the schools surveyed (Health Services, 2005).

What is Obesity?

Of the elementary schools that were surveyed in the SHPPS, 52.6% reported that they screen height and weight or body mass. However, only 37.8% of middle schools and 31.8% of high schools screen weight (Health Services, 2005). But what constitutes being overweight or obese? What indicates that it is more than “baby fat” and a child has a weight problem? Mosby’s Medical Dictionary (2002) defines overweight as more than normal weight for height and age, or being 10-20% above the person’s preferred weight. Obesity is defined as an abnormal increase in fat cells of the body (Mosby’s, 2002). Overweight and obesity are measured using body mass index (BMI). BMI is the weight in kilograms divided by the height in meters (NCHS Definitions, 2004; Kaminsky, et al. 2006). If an individual has a BMI of 25 kg/m to 29.9 kg/m, that person is considered to be overweight. If an individual has a BMI of 30 kg/m or more, that person is considered obese (NCHS Definitions, 2004, Kaminsky, et al., 2006). The CDC uses body mass index (BMI) to determine whether an individual is underweight, normal, at-risk of overweight, or overweight, or obese (BMI-Body Mass Index: BMI for Children and Teens, 2005). It is important to note that BMI is not a direct measure of an individual’s body fat (Overweight and Obesity: Defining Overweight and Obesity, 2005). Because BMI only assesses weight and height, BMI is a poor predictor of body fat percentage (Roitman, et al., 1998). This means that an athlete who is very muscular would have a high weight to height ratio giving that individual a higher BMI and may falsely classify that individual as being overweight or obese (Kaminsky, et al., 2006).

The Centers for Disease Control and Prevention (CDC) has set out guidelines for determining overweight and obesity specifically for children, known as BMI-for-age. These guidelines are widely accepted as the guidelines for weight status (BMI-Body Mass Index: BMI for Children and Teens, 2005; Overweight and Obesity: Defining Overweight and Obesity,
For children and adolescents, ages two-20, BMI is referred to as BMI-for-age. BMI-for-age is gender and age specific, with its own guidelines for underweight, normal, at-risk for overweight, and overweight. According to the BMI-for-age chart, underweight is being below the 5\(^{th}\) percentile in the specific gender and age category. Normal body weight ranges from the 5\(^{th}\) percentile to less than the 85\(^{th}\) percentile (BMI-Body Mass Index: BMI for Children and Teens, 2005). A rating of 85\(^{th}\) to less than the 95\(^{th}\) percentile is considered to be at-risk for overweight; with children and teens ranking above the 95\(^{th}\) percentile being classified as overweight (BMI-Body Mass Index: BMI for Children and Teens, 2005). Below is a chart that shows where a child would be categorized based on age, gender and BMI.

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<th>AGE (years)</th>
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(taken from: LeMura & von Duvillard, 2004)

Who is Obese?

More than 60 million adults, age 20 years and older, are obese. This accounts for 30% of the adult population in the U.S. according to the most recent data from the National Center for Health Statistics reported by the CDC (Overweight and Obesity: Home, 2005). Unfortunately, the risk is not limited to adults. A report by the CDC’s Division of Adolescent and School Health states that children who are overweight are more likely to grow to be overweight or obese adults (Physical Activity and the Health of Young People, 2005). The CDC also reported on the data provided on the younger population in the United States from the National Center for Health Statistics. Of children and adolescents, ages 6-19, 16% are considered overweight.
According to the standards for BMI-for-age. This number has tripled since 1980, rendering the number of overweight children and teens in this country in excess of nine million (Overweight and Obesity: Home, 2005).

This growing trend reaches all populations. Children in certain minority groups, including African Americans, American Indians, and Hispanics, tend to have a higher risk of obesity (Koplan, et al., 2005). Children from a low-income family also have been found to have higher rates of obesity (Koplan, et al., 2005). The Youth Risk Behavior Surveillance (YRBS) conducted by the CDC in 2003, found that 15% of teenagers surveyed nationwide were considered at-risk for being overweight and 13% of students were already in the category of overweight (Grunbaum, et al., 2004).

In another study, results showed a marked increase in obesity in both males and females over five years (O’Loughlin, et al., 2000). O’Loughlin and colleagues (2000) found that over the five years, the prevalence of overweight and obesity averaged 38.6% of boys and 37.3% of girls being overweight and 19.6% of boys and 16.2% of girls being obese (O’Loughlin, et al., 2000). The study was conducted from 1993 to 1997; during those five years there was a 5.3% increase in overweight prevalence, and a 4% increase in obesity (O’Loughlin, et al., 2000). It was also found that overall, the entire population was gaining weight, but those students who were already overweight were the subjects who showed the largest weight gain (O’Loughlin, et al., 2004).

Factors Contributing to Obesity

The conditions of overweight and obesity are caused by an energy imbalance. This results from the consumption of too many calories without counterbalancing them with physical activity. The process continues over a prolonged period of time causing problems with weight. While a person’s body weight is the result of many factors combined, some of these factors, such as behavior and environment are modifiable (Overweight and Obesity: Contributing Factors, 2005).

The American Obesity Association provides a list of factors that contribute to obesity, the majority of which are modifiable. Figure 2 shows what factors contribute to obesity and examples of what those factors may be.
All of the factors listed as modifiable are lifestyle choices and behaviors. The only factor that people cannot control is their genetics. Children with obese or overweight parents may be predisposed to becoming overweight or obese (Childhood Obesity, 2005).

**Eating Behaviors**

Although some people are predisposed to obesity due to genetics, many of them are not trying to modify the factors that they can control, such as eating behaviors and physical activity. In the United States, over the past twenty years, the food industry has changed. American society has made an unhealthy shift in its eating habits and food choices. Americans are making more unhealthy food choices, shifting to quick and easy foods, and increasing their portion size (Overweight and Obesity: Contributing Factors, 2005). Junk food and unhealthy eating habits are one of the major contributors to the obesity problem (Lin, et al., 2001). The CDC reports on eating behaviors among children and teens, asserting that eating behaviors are alarming and are not meeting dietary guidelines for nutrition (Nutrition and the Health of Young People, 2005).

The YRBS conducted by the CDC in 2003, found that only 22% of students (grades 9-12) surveyed nationwide had eaten fruits and vegetables more than five times per day in the week previous to taking the survey. The YRBS also found that, on average, males ate more fruits and vegetables than females, younger students more than older students, and minorities ate more fruits and vegetables than whites. Furthermore, only 17% of the surveyed students in the national YRBS had consumed three glasses of milk, or more, per day in the week previous to the survey (Grunbaum, et al., 2004). That same year the YRBS results for Ohio showed that 80% of students consumed less than three glasses milk, per day; in the week previous to the survey (Ohio 2003 youth risk behavior survey (YRBS) results, 2004).

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<th>Factors Contributing to Obesity</th>
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<td>Exercise</td>
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<td>Sedentary lifestyle</td>
<td>Lack of sufficient exercise</td>
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<td>Socioeconomic status</td>
<td>Low-income</td>
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<td>Eating Behaviors</td>
<td>High calorie, high fat</td>
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<td>Environment</td>
<td>Advertisements, marketing</td>
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<tr>
<td><strong>Non-modifiable factor</strong></td>
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<td>Family history</td>
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(Childhood Obesity, 2005)
In surveys conducted by the United States Department of Agriculture (USDA), it was found that children are snacking more often and still eating the same number of meals. The USDA surveys also found that 35% of children’s snacks come from school or fast food establishments. In 1996, the meals that children were eating away from home accounted for 30% of all meals (Lin, et al., 2001). Meals arranged in schools must meet USDA guidelines for Food and Nutrition Services; however, many schools offer á la carte items and vending machines that are not subject to USDA guidelines. Worse still, the percentage of school meals in the average child’s diet has plummeted from 11% to nine percent since 1978 (Lin, et al., 2001), indicating that more students are not participating in the regulated meal plans, but rather making choices from other sources such as school stores, vending machines, or á la carte choices.

It also was found that in 70.7% of schools, students are allowed to purchase foods high in fat, sodium and sugar during their lunch period, and 35.5% allowed it during times when meals are not being served. Only 12.4% of schools prohibit junk food during student parties, concessions stands and other settings outside the cafeteria (Food and Beverages Sold Outside of the School Meal Plan, 2005).

Not only were schools found to be offering unhealthy food choices, they allowed these choices to be promoted within the schools. Nearly 50% of schools surveyed had contracts with soft drink companies that allowed the sale of their product in that school district. Of those schools, nearly 80% received a percentage of the soft drink sales, another 62% received incentives for the sale of the product and 35% of schools allowed advertisements for the soft-drinks to be put inside the school building (Food and Beverages Sold Outside of the School Meal Plan, 2005).

The SHPPS found that more than 80% of schools offer food á la carte during lunch. Many foods and beverages that were offered were nutritious, however, many were not. Beverages that were 100% fruit or vegetable juices were offered in 62.9% of schools with an á la carte menu; however 31.6% of these schools also offered soft-drinks, sport drinks or other fruit drinks (not 100% juice). Other items served á la carte were baked goods, pizza, hamburgers, French fries, ice cream, salty snacks, candy and chocolate as shown in Figure 3 (Food Services, 2005).
In 1996, the USDA found that 36% of total calories that children received from school meals came from total fat intake, and 14% of that from saturated fats. This is a higher percentage of saturated fat than that which comes from fast food sources (Lin, et al., 2001).

**Physical Activity**

Not only are children and adolescents not eating properly, but their physical activity levels are not appropriate either. As children get older, their participation in physical activity decreases (Physical Activity and the Health of Young People, 2005). According to the 2003 YRBS, 11.5% of teenagers surveyed reported having no vigorous physical activity or moderate physical activity in the week prior to the survey (Grunbaum, et al., 2004), 32% of students in Ohio reported getting insufficient levels of vigorous physical activity (Ohio 2003 youth risk behavior survey (YRBS) results, 2004). Only 28% reported being in a physical education course that meets five days per week during school times (Grunbaum, et al., 2004). According to the 2003 YRBS Ohio data, 68% of students do not have physical education courses that meet daily and 59% of students reported not being enrolled in a physical education class at all (Ohio 2003 youth risk behavior survey (YRBS) results, 2004). A Youth Media Campaign Longitudinal Survey (YMCLS) conducted by the CDC, found that 61% of children ages nine-13 are not involved in organized activity or sport in their free time and 22% reported that they do not

---

**Figure 3: Percentage of Schools that Offer these items á la Carte**

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baked goods</td>
<td>59%</td>
</tr>
<tr>
<td>Pizza, Hamburgers and Sandwiches</td>
<td>56%</td>
</tr>
<tr>
<td>French fries</td>
<td>40%</td>
</tr>
<tr>
<td>Ice cream, frozen yogurt (not low in fat)</td>
<td>37%</td>
</tr>
<tr>
<td>Salty snacks</td>
<td>35%</td>
</tr>
<tr>
<td>Candy</td>
<td>9%</td>
</tr>
<tr>
<td>Chocolate</td>
<td>7%</td>
</tr>
</tbody>
</table>

(Food Services, 2005)
participate in any physical activity during their free time (Physical activity levels among children aged 9-13 years, 2003). Instead of physical activity, children are spending their free time participating in other types of activities. The YRBS found that 38% of students reported watching three or more hours of television on an average day when school is in session (Grunbaum, et al., 2004). In the YMCLS study, it was reported that transportation, lack of opportunity, expense, lack of parents’ time, and lack of neighborhood safety all were barriers to participation in the physical activity of children (Physical activity levels among children aged 9-13 years, 2003). Even schools are contributing to the lack of physical activity in today’s youth. The SHPPS found that only eight percent of elementary schools provided daily physical education for students; lower numbers were reported in middle schools (6.4%) and high schools (5.8%). And in 16% of elementary schools, students may be exempt from participation in a physical education class if they participate in school or community sports or activities, or for scoring high enough on a physical competency test (Physical Education and Activity, 2005).

In addition to behavior, parents’ attitudes may be contributing to the problem of childhood obesity. In a study by Sutherland, Gill & Binns (2004), parents responded to questions about their attitudes concerning the contributing factors of childhood obesity. Thirty percent of parents responded to the survey that they were unsure if children will outgrow obesity (Sutherland, et al., 2004). Sutherland and colleagues (2004) found this number alarming, due to the fact that many of the children in the study were classified as obese. The coupling of these two facts raises the concern that parents are not able to recognize if their children have weight problems, which may lead to parents being reluctant to seek help or intervene on unhealthy behavior (Sutherland, et al., 2004). In the same survey, most parents (87%) agreed that what children eat affects their weight, as well as the child’s physical activity (90%). However, only 55% of parents agreed that physical activity has an influence on a child’s risk for future health problems (Sutherland, et al., 2004).

Childhood obesity is leading to many health problems for children that are carrying over into adulthood. Poor eating habits coupled with lack of physical activity are leading to the early onset of a multitude of health complications, specifically Type II diabetes in children rather than adults. Type II diabetes is becoming more prevalent in the younger population (Nutrition and the Health of Young People, 2005). According to the CDC, of the children born in 2000 it is
estimated that one out of three will have diabetes during the course of their lifetime (Nutrition and the Health of Young People, 2005).

Type II diabetes is only one of the many physical health problems that children are facing due to obesity. There are numerous psychological and emotional problems that obese children face, as well. The YRBS reports that nearly 30% of students surveyed nationwide perceive themselves as being slightly to very overweight. Forty-three percent reported were trying to lose weight at the time of the survey. And in the 30 days prior to the survey, 42% of students reported eating less food to try to lose weight, while 13% reported going 24 hours or more with no food in order to lose weight (Grunbaum, et al., 2004).

What is being done to combat childhood obesity?

The CDC has a state-based program that aims to help prevent obesity by targeting poor nutrition and low levels of physical activity. The Nutrition and Physical Activity Program to Prevent Obesity and other Chronic Diseases was set to fund 21 states in 2005-2006 with more than $400,000 to build their programs. Another seven states are being funded with $750,000 to $1.3 million for the implementation of the program. This totals 28 states participating in this program (Overweight and Obesity: State-Based Programs, 2005).

Research has shown that school programs that embrace the CDC’s suggested guidelines for nutrition and physical activity have been effective in lowering the rates of childhood obesity (Veugelers & Fitzgerald, 2005). Veuglers & Fitzgerald’s 2003 study (2005), the Children’s Lifestyle and School-Performance Study (CLASS), used a modified version of the Harvard Youth Adolescents Food Frequency Questionnaire (YAQ), and also a survey on physical and sedentary activity, as well as measurements of height and weight on 5th grade students in Nova Scotia. The study compared results from the questionnaires on physical activity, diet and excessive body weight across participating schools. The schools that had nutrition programs in place were divided into two groups for comparisons to be made (Veugelers & Fitzgerald, 2005).

A health initiative program, Annapolis Valley Health Promoting Schools Project (AVHPSP), funds schools that adopt the school-based healthy eating program based on the CDC guidelines. When comparing seven participating schools to schools that have healthy menu alternatives in place, the research found that schools with AVHPSP programs had a lower rate of overweight and obesity in their student body, as well as healthier dietary habits among students. The study
also showed that those schools had higher rates of participation in physical activity (Veugelers & Fitzgerald, 2005). School-based programs targeting healthy eating and physical activity offer a number of benefits. Such programs reach almost all children, enhance their learning and socialization, enhance health at critical times during growth and maturation, and help to lower risk for chronic diseases later in life and help students to establish healthy behaviors (Veugelers & Fitzgerald, 2005).

Ohio

The most recent census data on the state of Ohio is from the 2004 American Community Survey (Ohio General Demographic Characteristics: 2004, 2004). This survey provides data on population, income/economic status, and school enrollment (Ohio General Demographic Characteristics: 2004, 2004).

These data (Figure 4) show that of children ages 5-14 years, the total population is more than 1.5 million. It also reveals that nearly 1.4 million are enrolled in kindergarten and elementary school. The children not enrolled in school may be receiving home-schooling, they may not be old enough to enroll in school or they may not be receiving any education at this time. It also is important to see that of all families in the state of Ohio, 10% are living below the poverty level (Ohio General Demographic Characteristics: 2004, 2004).
The state of Ohio is currently ranked 10\textsuperscript{th} in the nation in adult obesity. Ohio is ranked fourth in overweight teens at 13.9\% (Trust for America’s Health, 2005), with 13\% of teens at risk for overweight (Ohio 2003 youth risk behavior survey (YRBS) results, 2004), and is the 33\textsuperscript{rd} highest state for overweight children (age 2-5 years) from low-income families at 11.1 percent. In 2003, Ohio ranked 11\textsuperscript{th} in the nation when approximately $290 per person was spent on costs relating to obesity (Trust for America’s Health, 2005). Despite these alarming numbers, the state
of Ohio is not a participant in the CDC funded programming (Overweight and Obesity: State-Based Programs, 2005).

Demographic determinants have been shown to impact childhood obesity in some cases (Moreno, et al., 2004; O’Loughlin, et al., 2000). In a study conducted in Spain, it was found that there was a higher rate of overweight in children ages 6-7 years in smaller municipalities (Moreno, et al., 2004). It also was found that in adolescents ages 13-14 years, overweight was more prevalent in public schools in areas of low municipality size (Moreno, et al., 2004). The study also found a relationship between socio-economic status and male subjects. In this case it was found that as socio-economic status decreased, the prevalence of overweight increased in the male population (Moreno, et al., 2004).

**Summary**

As a society, there needs to be movement toward an intervention that will reach America’s youth at an early age (Koplan, et al., 2005). Schools need to be examined; what are they doing? What could they do better? Schools are an ideal venue for reaching children (Gardner, 2004; Hill & Trowbridge, 1998; Koplan, et al., 2005). Through schools, students can be taught the value of nutrition and exercise and behavior modification. Schools should provide healthy meal choices and provide physical activity opportunities for the students to promote appropriate behavior modification and healthy lifestyle (Gardner, 2004; Hill & Trowbridge, 1998). As obesity has become a widely recognized problem, the school system should be doing its part to combat this epidemic. However, according to recent research by the CDC, it does not seem that the schools are doing enough (Food and Beverages Sold Outside of the School Meal Plan, 2005; Food Services, 2005; Physical Education and Activity, 2005). Therefore, it is the purpose of this study to inquire as to what elementary schools in the state of Ohio are doing to combat childhood obesity.
CHAPTER THREE  
Methodology

Many researchers offer suggestions on studying childhood obesity in schools (Gardner, 2004; Hill & Trowbridge, 1998; Koplan, et al., 2005; Sutherland, et al., 2004). This study was conducted in the researcher’s home state, and used a well-known and reliable survey developed by the Centers for Disease Control and Prevention (CDC) (SHPPS, 2006). The purpose of the study is to inquire as to the steps that are being taken by elementary schools in Ohio to combat the growing problem of childhood obesity. This study was guided by the following research questions:

- What kind of meal programs exist in Ohio elementary schools?
- What requirements do the elementary schools have for health education?
  - Is there a focus on nutrition and physical activity in the elementary schools?
- What requirements do the elementary schools have for physical education?
  - What opportunities for physical activity do the elementary schools students have daily/weekly?
- Are the elementary schools using screening tools (such as height and weight) to identify students who are at risk for overweight or other health problems?

The study surveyed elementary schools that serve only grades kindergarten to grade five. The survey asked questions about health education, physical education, food services and health services offered by the school. What follows are the methods that were used to collect the data for this study.

Methods

Instrumentation

The survey that was used in this study is the School Health Policies and Programs Study (SHPPS) that was developed by the CDC (SHPPS, 2006). In 2000, the CDC conducted the SHPPS. This study collected data from schools to examine what is being done to promote health in the school system at the state, district, school and classroom levels. Some of the areas that the
SHPPS investigated were food and beverages sold at school, food services, health services and physical education and activity (SHPPS, 2006).

This study used the 2000 version of the SHPPS, due to the fact it has been shown to be both reliable and valid. Using the 2000 survey also allowed for a comparison of the findings of this study to the national data collected by the SHPPS in 2000. The complete version of the 2000 SHPPS was downloaded from the CDC website. For the purpose of this survey only questions in the 2000 SHPPS that served to answer the research questions of this study were used. The shortened version of the 2000 SHPPS was used by simply omitting questions with no relevance to the context or population of the study (i.e. questions concerning sexuality education or high school athletics). In no way were the questions altered or changed for the study. It was very important for the reliability and validity of the questions to remain intact. One part of the survey that was added for additional information was a general information sheet for the principal to complete that would provide general demographic information about the school. This study had as its primary focus health education, physical education, food service and health services in elementary schools (grades K-5).

The survey instrument itself is divided into sections; each section was answered by the appropriate staff member at each school. The survey was sent to the principal of the participating schools in a packet. The survey packets contained a cover letter (Appendix A) explaining the study, letter of informed consent (Appendix B), a detailed instruction sheet (Appendix C), the survey (Appendix D), and a self-addressed stamped envelope for the survey to be returned.

Pilot testing

Before the survey was mailed to the schools, a pilot test was completed in order to check the reliability of the survey packet and instructions. The school that was asked to participate in the pilot study was an elementary school in a nearby state that met all the criteria standards of the study, and was in close proximity to the investigator’s institution to allow for convenience of conducting the pilot. The pilot school was mailed the same survey and materials that that were to be given to the study schools and was given the same timeline for completion. The pilot school also was asked to provide feedback on quality and clarity of the cover letter and instructions. Once the pilot was complete, no adjustments needed to be made to the survey before mailing the study to participating schools.
Study Participants

For this study, all K-5 elementary schools in the state of Ohio were chosen to participate in the survey. The Ohio Department of Education website contains information for every school in the state of Ohio. Schools were chosen from the database through a specific process. Schools were first classified by school building name, rather than school district, to allow for possible comparison between schools within a district. All districts and counties in the state of Ohio were allowed into the database, except special needs districts. Special needs districts were not included due to the fact that their requirements and standards for their students are very different and such districts have specialized curriculum to meet the needs of their students. School type was chosen as “elementary” and was specified as kindergarten through fifth grade. The database was then downloaded in alphabetical order by building name. Once this list was generated, it contained a list of 3,249 schools in Ohio that met the criteria specified above.

The database generated all schools that served any of the grades that were indicated (kindergarten through fifth grade). For this study, only schools that served specifically grades K-5 had to be chosen from this database. Once the schools were narrowed to K-5 only, there were 683 schools that met the criteria desired for this study. This accounted for 22.6% of elementary schools in Ohio.

It was also of interest to know what portion of Ohio schools is considered rural and urban. This would allow for comparison between these types of schools should the response sample be large enough. The Ohio Department of Education was contacted, and the information was sent to the researcher in the form of a database with each district being listed in one of the two categories. Nearly 56% (55.9) of elementary schools serving K-5 in Ohio are rural, agricultural, small town or island and 44.1 percent are urban or suburban.

For the purpose of this study, all schools in the sample (683) were chosen for participation. Each school that had met the criteria described above were mailed a survey packet for participation in this study. Although the actual sample was quite large, the response rate was much lower. Forty-eight schools responded to the study. Nineteen schools responded by mail or email and declined participation. Two surveys were completed and returned, but had no consent form, therefore were omitted from the data analysis. One survey was completed and returned,
but left out of the study because it was received after the deadline. The remaining 26 surveys were used in the data analysis, making the total sample 26 schools.

**Data Collection**

Survey packets were mailed to the schools that met the criteria for participation in the study. Survey packets included a cover letter explaining the study, a directions sheet explaining what school employees should complete each section of the survey, letter of informed consent and a self-addressed stamped envelop for the survey to be returned. The survey packets were mailed out the week of May 24, 2006. The schools were given two weeks to complete the surveys and return them. At the end of the two weeks, a reminder was sent to all participating schools, via email or postcard, to remind them to fill out the survey and give them a two week extension to mail the survey back. The final deadline for surveys was Friday June 23, 2006.

**Data Analysis**

All data collected in this study were coded and collated in an SPSS data file and analyzed using SPSS data analysis.

There currently are no descriptive data on this subject on schools in Ohio. Therefore, the primary focus of the data analysis was descriptive data on each participating school. Nominal data were analyzed with frequency tables, and scale data was analyzed using descriptive analysis. Descriptive analyses were done for mean, minimum, maximum, range, standard deviation and variance. Due to the small sample size, results were reported mostly in frequency and mean. Comparisons between the study’s findings and national data will be made in areas of interest.
CHAPTER FOUR

Results

Summary of Study Findings

This study was structured to follow the SHPPS 2000 study. Therefore, many of the results found in this study are comparable to the national data found in the SHPPS 2000 study. The first analysis was to acquire descriptive data from the general information portion of the surveys. This analysis provided the mean, minimum and maximum number of students in the school, race distribution, staffing in the school, and the hours each staff spends at the school. Most schools that participated had smaller populations. The average number of students in the participating schools was nearly 420, with the smallest school having only 142 and the largest being 700. The participating schools were predominantly Caucasian (86.93%). The average number of Physical Education teachers in the schools was 1.02, each of whom spends an average of almost 26 hours per week in the schools. The presence of Health Education teachers was higher with the average 2.33 staffed in the schools; however, their average time spent in the schools was only 4.75 hours per week. Both nurses and dieticians, on average, were less than one per school with the dieticians averaging less than one hour per week at the schools. However, the nursing staffs spend on average 16.4 hours per week in the schools with the students. Figure 5 shows the detailed findings of this analysis.
The next analysis was to determine which staff members had completed what surveys. Many of the surveys were completed by the principal of the school, with anywhere from 30 to 54% of each survey being completed by the principal. Figure 6 shows the percentage of school employees who completed each portion of the survey.
The survey focused on four main topics: health education, physical education, health services and food services. The findings of each of these surveys have been summarized in their respective sections below. Comparison to national SHPPS data has been made where appropriate.

Health Education

The Health Education survey inquired about what is being taught to the students in the health discipline and how often the instruction is given. Of the participating schools, 70.8% reported that they followed national or state health education standards or guidelines. Schools also were asked to indicate what topics were covered with the students. Of the participating schools, 68.2% indicated providing instruction on personal health, 81.8% on personal hygiene, 81.8% on dental health, 72.7% on nutrition, 72.7% on physical activity and fitness, 81.8% on growth and development, 68.2% on consumer health and 72.7% on environmental health.

When asked to indicate at what grade levels the students received health education, 15.8% of schools reported not requiring it at any specific grade level. Instruction for kindergarten through grade 5 varied. Figure 7 shows the percentage of schools that offer health education instruction for kindergarten through grade 5 and compares it to the national data found in the 2000 SHPPS study.
Figure 7: Health Education Instruction for Kindergarten to Grade 5

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>2000 SHPPS</th>
<th>Ohio Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>33</td>
<td>47.4</td>
</tr>
<tr>
<td>Grade 1</td>
<td>39</td>
<td>57.9</td>
</tr>
<tr>
<td>Grade 2</td>
<td>39</td>
<td>68.4</td>
</tr>
<tr>
<td>Grade 3</td>
<td>41</td>
<td>73.7</td>
</tr>
<tr>
<td>Grade 4</td>
<td>42</td>
<td>84.2</td>
</tr>
<tr>
<td>Grade 5</td>
<td>44</td>
<td>84.2</td>
</tr>
</tbody>
</table>

(Health Education, 2005)

When reporting the number of weeks that each grade level received instruction in Health Education, the average varied from 11-15 weeks depending on the grade level, with the average health lesson being 30 minutes long.

Physical Education

The Physical Education (PE) survey was completed by either the Physical Education Teacher (66.7%) or the Principal (33.3%). The data show that when asked if students are required to take physical education (PE), 87.5% of participating schools reported that PE was a requirement for their students; however in 2000, SHPPS data reported that 96.8% elementary schools across the nation required PE for their students (Physical Education and Activity, 2005). The findings of the 2000 SHPPS also found that 84% of elementary schools follow national or state physical education guidelines or standards (Physical Education and Activity, 2005); this study found that of participating elementary schools in Ohio, 87.5% follow national or state guidelines.

Nearly 92% of schools reported having PE instruction in grades one through five. Kindergarten was the exception, with 87.5% reporting that instruction is provided at this level. A little more than eight percent reported that they do not require Physical Education in any specific grade. It was found that 45.5% of schools report grades one through five receive PE instruction only 1 day per week, and 40.9% report offering it two days per week. Kindergarten students were reported as 50.0% receive PE instruction one day per week and 36.4% receiving instruction two days per week. No schools in this study reported having daily PE instruction at any level, compared to eight percent of elementary schools in 2000 that reported daily physical activity (Physical Education and Activity, 2005). Participating schools reported offering PE
instruction, on average, 32.5 weeks per school year, with the average lesson lasting nearly 40 minutes. Data also showed that the focus of PE in a high majority of schools (83.3-100%) reporting that the following are goals or objectives that are addressed in their PE instruction: benefits of exercise, attitudes toward physical activity, knowledge of principles of exercise, regular participation in physical activity, maintenance of a healthy fitness level, fundamental motor skills, specialized motor skills and appropriate behavior in physical activity settings.

Although 87.5% of schools require their students to take Physical Education, most schools have exemptions policies. In 2000, the SHPPS study found that 16.7% of elementary schools exempt students for at least one of the following reasons: high physical competency, participation in other school or community activities, or community service activities (Physical Education and Activity, 2005). This study found that many schools will exempt students from PE for one or more of seven different reasons. Figure 8 outlines the seven reasons for exemption and the percentage of schools that exempt their students from PE for that reason.

### Figure 8: Exempt Students from Required Physical Education

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Percentage of Schools that Exempt Students from required PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Reasons</td>
<td>50</td>
</tr>
<tr>
<td>Physical Disability</td>
<td>60.9</td>
</tr>
<tr>
<td>Cognitive Disability</td>
<td>12.5</td>
</tr>
<tr>
<td>High Physical Competency</td>
<td>8.3</td>
</tr>
<tr>
<td>Participation in other School Activities</td>
<td>4.2</td>
</tr>
<tr>
<td>Participation in Community Sports</td>
<td>4.2</td>
</tr>
<tr>
<td>Participation in Community Service Activities</td>
<td>4.2</td>
</tr>
</tbody>
</table>

### Health Services

The Health Services survey reported data on staffing, screening and services provided by the Health Services staff at the participating schools. Figure 9 reports the data found on staffing, screening and services provided at the national level (2000 SHHPS) and what this study found in Ohio elementary schools.
As the data show, 87.5% of schools in Ohio have a full-time or part-time nurse compared to 76.8% nationally (Health Services, 2005). It also was found that Ohio elementary schools are well below the national level in screening and in services provided. In 2000, 52.6 schools reported that they screen for height and weight/Body Mass Index. This study found that only 33.3% elementary schools in Ohio are screening for height and weight/Body Mass Index.

**Food Services**

The Food Service survey inquired as to what kind of meal plans the schools offered and what types of food were served. Of the participating schools in Ohio, 61.9% reported serving breakfast, and 100% reported serving lunch. Of those who reported having breakfast programs and lunch programs, 65% reported that their school participated in the USDA breakfast program and 94.7% of the lunch programs were USDA programs, compared to national data in 2000 in which 87.8% report USDA breakfast programs and 63.8% reported USDA lunch programs. Schools that reported having breakfast programs gave the students an average of 17.5 minutes for breakfast. The length of time allotted for lunch averaged 20 minutes.

Schools also were asked to report on foods that were offered á la carte. Fifteen percent of schools reported offering breakfast foods á la carte, and 38.1% reported offering lunch foods á la carte. The schools that offer á la carte menus were asked to report on foods that were offered; Figure 10 shows the percentage of schools that offer specific types of food and compares it to the national data from the 2000 SHPPS survey.
In addition to some of the unhealthy foods that are being offered à là carte, some schools are making butter and salt readily available for students to use at their discretion. When asked about having butter and salt on the food line or on the table, 35% of schools reported having butter in the line or on the table and 20% reported having salt available in the same manner.

**Qualitative Findings**

Although it was not the intention of this study to gather qualitative data from the schools, some surveys were returned with comments in the margins. Many responses had notes in the margin that participation was not possible at this time due to it being near the end of the school year or that they had already dismissed for the summer. Many of the declined responses also indicated that they would like to participate if resurveyed in the fall. At least six schools indicated that their health curriculum was integrated into science, social studies or physical education lessons. One survey noted that when and how the health education lesson was taught varied by the teacher. Three surveys noted that the staff was gone for the summer and that the principal completed the survey to the best of his/her ability.
CHAPTER FIVE
Discussion

The purpose of this research was to gain insight on what elementary schools serving kindergarten through grade five in Ohio were doing to combat childhood obesity. Using a shortened version of the 2000 SHPPS questionnaire, this study inquired as to what each school was doing in the areas of health education, physical education, health services and food service. The survey contained questions about curriculum, staffing, instructional topics, instruction schedule, health screening, health services provided, menu items and lunch and breakfast schedules.

Demographic information was gathered from the participating schools and analyzed in terms of mean, minimum value and maximum value. Some of the information that was reported included number of students in the school, number of students in each grade (also divided into male and female categories), race distribution, staffing in the school, and hours that the staff spends at the school per week. This information, although not vital to the results of this study, are important for knowing the population that is being researched. Other research already has shown that obesity prevalence varies among different populations of people (Koplan, et al., 2005); therefore, demographic information is vital to understanding the results of such a study. In this instance it is important to note that of the schools that participated in the study, 86.93% of the students were Caucasian. Due to such a small sample in this study, it is not possible to say if it is representative of the state of Ohio.

Descriptive data information also is important in this study because Ohio currently does not have the type of data that this study examined. As seen in the results section, there are comparisons made to the national data found in that study. However, there are not SHPPS data available on the state of Ohio. There are data on Ohio from the 2003 YRBS study, however, it is not able to be directly compared to the results of this study because it is not only a different set of survey questions, but it also deals with the adolescent population.
Health Education

When analyzing the data from the Health Education survey, the most alarming data were that 15.8% of schools do not require health education instruction at any specific grade level. This may be partially explained by two comments that were displayed in the margins of many of the surveys. First, one school reported that the health education lesson varies by teacher. This leads to the conclusion that some schools may not have an established health curriculum for specific grade levels, but rather they allow the teachers to make their own lessons at their own discretion. Second, many schools commented that their health curriculum was integrated into science, social studies and physical education. This is disturbing, in that the schools are not placing emphasis on health, but rather mentioning health related ideas where they relate to other lesson plans.

Although nearly 16% of schools reported not requiring health education at specific grade levels, many schools require it at multiple levels. When looking at the percentage of schools that require health education at each grade level, Ohio was far above the national percentages at every level. The data from this study show the percentage of schools that have health education at specific grade levels climbed from 47.4% in Kindergarten, increasing at every level, up to 84% of schools requiring it in the fifth grade. This is important, because as the children grow they need more information on health related topics to help them learn to make proper lifestyle decisions.

Physical Education

When looking at physical education in participating Ohio elementary schools, there are both positive and negative points. Although it seems that 87.5% of schools requiring physical education is good, comparatively Ohio is behind the reported 96.8% of elementary schools that required physical education in the 2000 SHPPS (Physical Education and Activity, 2005). It is positive that nearly 92% of Ohio schools in the study reported have physical education instruction for grades one through five. The negative side to this statistic is that 45% of schools reported only having PE instruction one day per week, 41% only two days per week and no schools in this study reported daily physical education lessons at any grade level. And on another positive note, participating schools reported having PE instruction, on average, 32.5 weeks per year. This accounts for nearly an entire school year.
As a final note on physical education, it is important to discuss the response to the question of exemption from physical education instruction. Schools were asked for what reasons students were exempt from physical education, then given seven choices to respond to. Physical disability ranked as the highest reason students are exempt from PE instruction with nearly 61% of schools allowing this. This is a discouraging statistic; students, regardless of disability, should still be participating in physical activity. In the school systems it would appear that it is difficult to accommodate students with disabilities. However, leaving them out of instruction completely, rather than having special instruction, is not the answer. But more upsetting is that 4.2% of schools exempt students from PE instruction for participation in other school or community sports and activities. Although this is a low number, this shows what is going wrong with children and their physical activity levels. It is not harmful for a child to have extra physical activity time in their day. In fact, for most children in society, the more they get the better. Schools should not be allowing students to not participate in PE instruction because they are in other activities outside of school. Physical activity is important for growing children.

Health Services

The Health Services survey looked at health service staffing, screening and services provided in the schools. When looking at nursing and health aide staffing in the schools, more schools in this study reported staffing nurses and health aides than schools at the national level in the 2000 SHPPS (Health Service, 2005). However, in 2000, 16% of schools reported having a physician, either full or part-time (Health Services, 2005), compared to zero schools in Ohio. Ohio is also well below the 52.6% of schools that reported screening for height and weight/Body Mass Index in the 2000 SHPPS (Health Service, 2005). Only 33.3% of the schools in this study reported screening for BMI. This is where schools need to intervene and help combat childhood obesity. Schools are a easy way to track children, and screen for health problems. It is also important to understand how the methods of measurement are affected by age, sex and ethnicity. More information is needed in the area of obese and overweight children and their socialization patterns (Hill & Trowbridge, 1998). Koplan and colleagues (2005) suggest that schools measure weight, height and gender/age specific BMI percentiles each year and make this information available to the parents and children. Act 1220 of 2003 in Arkansas did exactly what researchers suggest. Act 1220 of 2003 called for a Child Health Advisory Committee to be formed and for statewide efforts be coordinated to fight childhood obesity. As
part of the provisions of the act, standards were set forth for health and physical education instruction, as well as what foods were served and sold in the schools (A Bill: Act 1220 of 2003, 2003). The act prohibited access to vending machines during school. And quite possibly the most important provision of Act 1220 of 2003 in Arkansas, an annual body mass index percentile by age would be reported to the parents of each student on their report card, along with an “explanation of the possible health effects of the body mass index, nutrition and physical activity” (A Bill: Act 1220 of 2003, 2003).

**Food Service**

The most important data found in the Food Service survey were the data on the food that was served. Thirty-eight percent of the schools in this study reported offering lunch foods á là carte. This seems to be a high percentage considering the age of the students is kindergarten to fifth grade. The question is then, are children ages 5-10 ready to make their own decisions as to what they should be eating for lunch everyday? Although schools with á là carte menus reported having fruits and vegetable as options, they also provide unhealthy choices as well. Fifty-three percent reported having cookies and cakes (not low-fat), 50% reported pizza, hamburgers, and sandwiches, 30% offered ice cream (not low-fat) and 24% offered French fries. The choices are being left up to the children, and parents and schools cannot expect that the students will make the nutritious and healthy choice.

In addition to allowing the children to choose what foods are appropriate, 35% of the schools reported having butter and 20% reported salt readily available to the children to use at their own discretion. Again, are children ready to make that decision for themselves?

**Qualitative Findings**

As stated in the results, qualitative research was not the intention of this study. However, it was found to be an unexpected surprise when many surveys were returned with comments in the margins. The comments were helpful in understanding some of the results, as well as giving insight into limitations of the study and suggestions for further research.

It was the intention of this study to focus on schools, however, other researchers remind that it is not only the schools’ responsibility. Although school interventions for obesity are well supported by researchers and health organizations (Gardner, 2004; Hill & Trowbridge, 1998; Koplan, et al., 2005), not everyone views the school as being responsible for intervening on this
epidemic (Sutherland, et al., 2004). Sutherland, Gill and Binns (2004) investigated the attitudes of parents, teachers and health professionals toward school-based interventions. The majority of parents, teachers and health care professionals agreed that schools should play a role in promoting healthy lifestyles for children, with 83% of teachers in agreement with this statement (Sutherland, et al., 2004). In regard to teaching children about balanced eating, nearly 10% of teachers did not feel that it was the school’s responsibility (Sutherland, et al., 2004). More than 30% of parents and 35% of teachers agreed that only the family is responsible for food habits of children; when asked about schools restricting food options, 95% of health professionals supported it, but only 54% of parents and 67% of teachers supported this action by schools (Sutherland, et al., 2004). When asked the question of whether schools “would be an ideal place to prevent weight problems in children”, 75% of health professionals supported that statement but only 43% of parents and only 33% of teachers agreed (Sutherland, et al., 2004).

In discussing the results of the study, Sutherland and colleagues (2004) stated that health professionals lend clear support to school-based interventions. However, teachers lend the least support, which Sutherland and colleagues (2004) attribute to overloaded curriculums and pressure that is placed on schools already (Sutherland, et al., 2004).

Limitations

The goal of the current research study was to gain insight as to what elementary schools (K-5) in Ohio were doing, or not doing, to combat childhood obesity in the areas of health education, physical education, health services and food services. Results of this study must be interpreted with the study’s limitations in mind. The limitations of the study also provide insight and direction for further research.

A clear limitation to this study was the low response rate. Although 683 schools were included in the recruitment, only 26 surveys made up the final sample used in the study. Many factors played a role in the low response rate of this study. Due to the time frame of the research project, the surveys were sent out near the end of the school year. As reported in the qualitative findings, many schools indicated that participation was not possible due proximity to the end of the school year, with many indicating that their schools were already dismissed for the summer. Adding to the timing of the survey, at least 42 surveys were damaged during mailing. Due to the damage, many schools did not receive their return envelopes. It is an uncertainty how many
were actually damaged and how many schools received damaged or missing surveys. This may have played a part in the low response.

Each part of the survey was to be completed by a different staff member at the school who was best suited to answer the questions in the survey. Due to the time of year that the survey was sent, many surveys were completed by the principal. As the qualitative results indicated, many schools had dismissed for the summer, and the principal completed the survey to the best of their ability. This is a limitation for a few reasons. The first limitation is that many questions on multiple surveys, or complete sections of surveys, were left blank due to the principal or other staff member not knowing the answers. It is appreciated that the effort was made and some data were available, however, staff answer questions in an area other than their expertise left many holes in the data.

Another reason that principals or other staff completing the survey is a limitation is due to the fact that the questions were answered from the principal’s point of view. For example, questions that referred to who is teaching the subject, their education and qualifications was answered from the principal’s background. This means that instead of having data on the health educator, physical educator, nurse and dietician’s background and qualifications, the data reflect only the principal’s background and qualifications. This is an important limitation for the results because it is important to know who is teaching the students and why they are qualified; however, this study did not address this in the results because the information was skewed toward the principals or inappropriate staff in the specific areas.

**Implications of Limitations for Future Research**

The findings of this study, along with the limitations indicate some direction for future research. Due to the qualitative responses of many schools, it is recommended that future research involving schools take place in the fall of the year for best response results. These responses also indicated that there is an interest for this type of research and schools are willing to participate.

It may be helpful in future research, to combine a study such as the SHPPS with a qualitative component. Although qualitative results were not a planned part of this research study, the qualitative responses that were given were helpful and insightful.

Research of this magnitude also may be more successful if done in an electronic format. One limitation of this study was that surveys were damaged in the mail. It is very
possible that an electronic survey would be more convenient for both the schools and the researcher and may have a higher response rate. This also eliminates the overwhelming cost of mailings that may serve as a limitation to this type of research.

**Suggestions for Research and Intervention**

Koplan, Liverman and Kraak (2005) assert that the school is the logical setting for obesity intervention due to it being a primary location for reaching children. Koplan and colleagues (2005) also suggest that intervention should include the total school environment and promote healthy eating behaviors, as well as promote physical activity (Koplan, et al., 2005). Laura L. Hayman, a member of the Committee on Atherosclerosis, Hypertension and Obesity in Youth of the American Heart Association, agrees with this sentiment (Gardner, 2004). She believes that the way to prevent childhood obesity is through physical activity and sound nutrition, and schools are an effective way to reach the youth of America (as cited by: Gardner, 2004). Hill and Trowbridge (1998) suggest that the concepts that have been shown to be effective in the clinical setting for preventing and treating childhood obesity be applied in the school and community settings. Behavior modification techniques are used in the clinical setting to modify diet and activity patterns. It is important to implement these ideas in school-based and community-based interventions (Hill & Trowbridge, 1998).

The American Heart Association (AHA) provides some recommendations for what schools should be doing. The AHA suggests that schools teach students the risk factors of cardiovascular disease and behavior modifications that may be preventive. According to the AHA, schools should have behavioral training to teach healthy behaviors concerning exercise and nutrition. The AHA recommends that schools require physical education at least three times per week, and that schools offer healthy meal choices (Gardner, 2004).

**Summary**

There is an obvious need to conduct more research on the growing problem of childhood obesity and ways to control it. Combating childhood obesity must be a comprehensive effort among government, schools, community, family and the individual. There needs to be a uniform intervention source. Schools are an obvious choice for intervention due to the number of hours children spend there and the impact that education on the nutrition and exercise can have on a young child (Hill & Trowbridge, 1998; Koplan, et al., 2005; Sutherland, et al., 2004).
It was a disappointment that the study sample was small and therefore gave no significant
data on this topic. The data produced from this study does support the literature and research
that has been done national. Therefore, it is important that research on school programs and
childhood obesity be continued in the state of Ohio.
Appendix A

PHS Department
Phillis Hall
Miami University
March 25, 2006

Ms. Joni Minton
Principal
Lynchburg-Clay Elementary
6760 State Route 134
Lynchburg, Ohio 45142

Dear Ms. Minton:

My name is Lindsey Snyder; I am a graduate student at Miami University, pursuing my Master of Science under Dr. Susan Cross Lipnickey in Exercise and Health Studies. I am currently conducting thesis research to complete my degree. I would like to invite you and your staff to participate.

You and your school have been selected to participate in this research study. This study inquires as to what is being done in Ohio elementary schools to help combat childhood obesity. The questionnaire that you are being asked to complete has been developed by and used for research by the Centers for Disease Control and Prevention (CDC). The CDC uses this survey every six years to gather data on School Health Policies and Programs. This study is looking for similar data and is using the same survey. This survey inquires as to what is happening in health education, physical education, food services, and health services in each school. All data for this study will be reported in aggregate. It is the purpose of this study to find out what is being done in these areas to combat childhood obesity. I am inviting you and your school to participate in this study. I only ask that follow the simply instructions given in the packet, complete and return the survey.

If you choose to participate and return your survey packet by the deadline, you will receive a summary of the finalized research and findings of this study.

I kindly ask for your cooperation in this research study. If you have any questions concerning this study, please contact Dr. Susan Cross Lipnickey (lipnicsc@muohio.edu) or myself (snyderls@muohio.edu or 937-302-0938).

Sincerely,

Lindsey Snyder
Susan Cross Lipnickey
PHS Department
PHS Department
Miami University
Miami University
Advisor
Appendix B

PARTICIPATION AND INFORMED CONSENT

Dear _________________________:

My name is Lindsey Snyder; I am a graduate student at Miami University, pursuing my Master of Science under Dr. Susan Cross Lipnickey in Exercise and Health Studies. I am currently conducting thesis research to complete my degree. I would like to invite you and your staff to participate.

I am hoping you will consider participation in this research study in which I will be inquiring as to what is being done in Ohio schools to help combat childhood obesity. You will be asked to complete the attached survey that asks questions regarding School Health Policies and Programs. It is important that you know that the schools identity will be kept confidential and only I, as the researcher, will know. Results of the survey will be coded and analyzed, and used in the final thesis paper, may possibly be used in a later publication. All data will be reported in aggregate. At no point will your school be identified or be evaluated independently. Your participation or lack of participation in my study will in no way have a negative affect on you or your school. That is, volunteering to participate in this study is completely an independent decision. Surveys will take approximately 30 minutes to complete. You reserve the right to leave any question(s) unanswered that you may be uncomfortable with. It is your decision to complete and return the survey packet.

If you have further questions about the study, please contact me, Lindsey Snyder at snyderls@muohio.edu or (937)302-0938. You may also contact my advisor, Dr. Susan Cross Lipnickey at lipnicsc@muohio.edu. If you have any questions about your rights as a research participant, please call the Office of Advancement of Research and Scholarship at Miami University at (513)529-3734.

Thank you for your participation. We are very grateful for you help and hope that this will be an interesting experience for you. You may keep this portion of the page.

I agree to participate in the study of what is being done in Ohio schools to help combat childhood obesity. I understand my participation is voluntary and that my name will not be associated with my responses.

Principal of Participating School’s signature _________________________________________

Date _________________________________________________________________________

---------------------------------------------------------------
Appendix C

SURVEY INSTRUCTION

1. Each section of the survey should be given to the appropriate faculty/staff member at your school to be completed. Each survey is between 25 and 35 questions long. It should take approximately 30 minutes for each faculty/staff member to complete and return their portion of the survey.

   a. The top sheet is basic information about your school and should be completed by the principal or administrative staff.

   b. The health education portion should be completed by the health educator in your school. If each classroom teacher is responsible for their own health lesson, it may be more appropriate for a curriculum director or principal to fill out this section.

   c. The physical education portion should be completed by the physical education instructor. If each classroom teacher is responsible for their own PE lesson, it may be more appropriate for a curriculum director or principal to fill out this section.

   d. The health service portion should be completed by the school nurse, nurse aide or health aide at your school. If your school does not have a healthcare provider on site, it may be more appropriate for a curriculum director or principal to fill out this section.

   e. The food service portion should be completed by the school’s dietician, head of food service or food manager.

2. Once each member of the faculty/staff has completed the survey, it should be returned to the principal. When all portions of the survey are completed and returned, the principal must return the survey in its entirety to the researcher via the self-addressed stamped envelope in the original survey packet.

3. When the study is completed and analysis has been conducted, a summary of your school’s data, as well as a summary of the data and findings from the study, will be sent to your school’s principal in appreciation for your cooperation.
Appendix D

SCHOOL HEALTH PROGRAMS SURVEY

General School Information

1. School Name: _________________________________

2. School District Code: _________________________________

3. Total Number of Students Currently Enrolled: ________________

4. How many students are currently enrolled in each grade? How many males and females in each grade?
   - Kindergarten ________ Students ________ Males ________ Females
   - 1ST Grade ________ Students ________ Males ________ Females
   - 2ND Grade ________ Students ________ Males ________ Females
   - 3RD Grade ________ Students ________ Males ________ Females
   - 4TH Grade ________ Students ________ Males ________ Females
   - 5TH Grade ________ Students ________ Males ________ Females

5. How many students in your school are eligible for free or reduced breakfast and/or lunch programs?
   ________________ Students

6. What percentage of your students are:
   a. Caucasian _______ %
   b. African American _______ %
   c. Hispanic _______ %
   d. Other _______ %

7. Identify which of the following staff members you have, how many of each, and the percentage of time they spend at your school.

<table>
<thead>
<tr>
<th>Staff Member</th>
<th># of staff</th>
<th># of hours at your school</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Physical Education Teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Health Education Teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. School Nurse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Registered Dietician</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Health Education School Questionnaire

What is your job title at the school? (In which role do you spend more time?)—Select one
1) Principal
2) Asst. Principal
3) School Secretary
4) Physical Education Teacher/Provider
5) Athletic Director
6) Health Education Teacher
7) Other Teacher
8) Food Service Manager
9) Other School Food Service Staff
10) Other Staff
11) Nurse

1. Does this school follow any national, state, or district health education standards or guidelines?  
   Yes...............1  No..................2

2. Are these health education standards or guidelines based on the National Health Education Standards?  
   Yes...............1  No..................2

3. Are those who teach health education at this school provided with...  
   1. Goals, objectives, and expected outcomes for health education? ........1 ........... 2
   2. A health education curriculum? ................................................................. 1 ........... 2
   3. A chart describing the scope and sequence of instruction for health education? .. 1 ........... 2
   4. Lesson plans or learning activities for health education? ......................... 1 ........... 2
   5. Plans for how to assess or evaluate students in health education? .............. 1 ........... 2

4. Are all those who teach health education at this school required to use this curriculum? Yes........ 1 No...........2

5. Do those who teach health education at this school have their own copy of the curriculum? Yes...... 1 No...........2

6. Do this school’s goals and objectives for health education address student outcomes such as...  
   1. Comprehension of concepts related to health promotion and disease prevention?.............................. 1 ........... 2
   2. The ability to access valid health information and health promoting products and services? ....... 1 ........... 2
   3. The ability to analyze the influence of culture, media, technology, and other factors on health? .... 1 ........... 2
   4. The ability to practice health-enhancing behaviors and reduce health risks? .................. 1 ........... 2
   5. The ability to use interpersonal communication skills to enhance health............................. 1 ........... 2
   6. The ability to use goal-setting and decision-making skills to enhance health? ................. 1 ........... 2
   7. The ability to advocate for personal, family, and community health?................................. 1 ........... 2

7. Are students required to receive instruction on...  
   1. Personal hygiene? .............................................................................................. 1 ........... 2
   2. Dental and oral health? ......................................................................................... 1 ........... 2
   3. Nutrition and dietary behavior? ............................................................................... 1 ........... 2
   4. Physical activity and fitness, that is classroom instruction, not a physical activity period? .......... 1 ........... 2
   5. Growth and development? .................................................................................... 1 ........... 2
   6. Consumer health, such as choosing sources of health-related information, products & services wisely? 1 ........... 2
   7. Environmental health, such as how air and water quality can affect health?....................... 1 ........... 2

8. At this school, in which grades do students receive required instruction on health topics? MARK ALL THAT APPLY.
   K...............  0  2nd ..................2  4th...............4
   1st ...............1  3rd .................. 3  5th...............5
   Health education not required in any specific grades ........ 6

Answer Q9-Q11 for each grade listed above.

9. How many weeks during the school year are ____ graders scheduled to take health education?  
   ____ Graders ____ Weeks  ____ Graders ____ Weeks  ____ Graders ____ Weeks  ____ Graders ____ Weeks

39
10. On average, how many **days per week** are the ____ graders scheduled to take health education?

<table>
<thead>
<tr>
<th>Days per Week</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1 Day, 0 Days one week, 1 day the next week...6</td>
</tr>
<tr>
<td>1</td>
<td>2 Days one week, 2 days the next week...7</td>
</tr>
<tr>
<td>2</td>
<td>3 Days one week, 3 days the next week...8</td>
</tr>
<tr>
<td>3</td>
<td>4 Days one week, 4 days the next week...9</td>
</tr>
<tr>
<td>4</td>
<td>5 Days one week, 5 days the next week...10</td>
</tr>
<tr>
<td>5</td>
<td>Other...11</td>
</tr>
</tbody>
</table>

(Use code above for each grade that receive health instruction)

11. On average, how many minutes is each session of health education scheduled to last? ____ Minutes

12. Who teaches health education to students at this school? **MARK ALL THAT APPLY.**

<table>
<thead>
<tr>
<th>Option</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health education specialist(s) or teacher(s)</td>
<td>1 School nurse(s)...4</td>
</tr>
<tr>
<td>Physical education specialist(s) or teacher(s)</td>
<td>2 School counselor(s)...5</td>
</tr>
<tr>
<td>Regular classroom teacher(s)</td>
<td>3 Other(s)...6</td>
</tr>
</tbody>
</table>

13. Do students receive letter or numerical grades, pass/fail, or some other type of grades specifically for required health education at this school? **MARK ALL THAT APPLY.**

<table>
<thead>
<tr>
<th>Grade Type</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter or numerical grade</td>
<td>1 Pass/Fail...2</td>
</tr>
<tr>
<td>Other</td>
<td>No grades given for health education...4</td>
</tr>
</tbody>
</table>

14. Are grades from required health education used the same as grades from other subject areas when determining grade point averages, honor roll status, or other indicators of academic standing? Yes............1 No............2

15. If students fail required health education, are they required to repeat it? Yes............1 No............2

16. During the past 12 months, have the health education staff worked on health education activities with...

<table>
<thead>
<tr>
<th>Activity</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical education staff from this school?</td>
<td>1 ........................................ 2</td>
</tr>
<tr>
<td>2. Health services staff from this school?</td>
<td>1 ........................................ 2</td>
</tr>
<tr>
<td>3. Mental health or social services staff from this school?</td>
<td>1 ........................................ 2</td>
</tr>
<tr>
<td>4. Food service staff from this school?</td>
<td>1 ........................................ 2</td>
</tr>
</tbody>
</table>

17. Currently, does someone at this school oversee or coordinate health education? Yes............1 No............2

18. Are you this person? Yes............1 No............2

19. Do you have an undergraduate degree? Yes............1 No............2

20. What did you major in? **MARK ALL THAT APPLY.**

<table>
<thead>
<tr>
<th>Major</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health education &amp; physical education combined</td>
<td>1 Nutrition...5</td>
</tr>
<tr>
<td>Health education</td>
<td>2 Public health...6</td>
</tr>
<tr>
<td>Physical education</td>
<td>3 Home economics...7</td>
</tr>
<tr>
<td>Other education</td>
<td>4 Other...8</td>
</tr>
</tbody>
</table>

21. Do you have a graduate degree? Yes............1 No............2

22. In what area or areas? **MARK ALL THAT APPLY.**

<table>
<thead>
<tr>
<th>Area</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health education &amp; physical education combined</td>
<td>1 Nutrition...5</td>
</tr>
<tr>
<td>Health education</td>
<td>2 Public health...6</td>
</tr>
<tr>
<td>Physical education</td>
<td>3 Home economics...7</td>
</tr>
<tr>
<td>Other education</td>
<td>4 Other...8</td>
</tr>
</tbody>
</table>

23. Currently, are you certified, endorsed, or licensed by the state to teach health education in...

<table>
<thead>
<tr>
<th>Area</th>
<th>Graders Scheduled to Take Health Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school?</td>
<td>1 ........................................ 2</td>
</tr>
<tr>
<td>Middle or junior high school?</td>
<td>1 ........................................ 2</td>
</tr>
<tr>
<td>Senior high school?</td>
<td>1 ........................................ 2</td>
</tr>
</tbody>
</table>

24. Are you a Certified Health Education Specialist or CHES? Yes............1 No............2
**Physical Education School Questionnaire**

What is your job title at the school? (In which role do you spend more time)? Please select only one.

1) Principal  
2) Asst. Principal  
3) School Secretary  
4) Physical Education Teacher/ Provider  
5) Athletic Director  
6) Health Education Teacher  
7) Other Teacher  
8) Food Service Manager  
9) Other School Food Service Staff  
10) Other Staff  
11) Nurse

1. Does this school follow any national, state, or district physical education standards or guidelines? Yes…..1 No…..2

2. Are these physical education standards or guidelines based on the National Standards for Physical Education? Yes….1 No… .2

3. Are those who teach PE at this school provided with...
   - Yes      No
     1. Goals, objectives, and expected outcomes for PE? ........................................................................ 1 ....................2
     2. A PE curriculum? ......................................................................................................................... 1 ....................2
     3. A chart describing the scope and sequence of instruction for PE?.............................................. 1 ....................2
     4. Lesson plans or learning activities for PE? ..................................................................................... 1 ....................2
     5. Plans for how to assess or evaluate students in PE? ..................................................................... 1 ....................2

4. Are all PE teachers at this school required to use this curriculum? Yes…………1 No…………..2

5. Do PE teachers at this school have their own copy of the curriculum? Yes………….1 No…………..2

6. Do this school’s goals and objectives for PE address student outcomes such as...
   - Yes      No
     1. Knowledge of the benefits of physical activity? .................................................................................. 1 .............. 2
     2. Knowledge of the principles of exercise, that is frequency, intensity, and duration? .............................. 1 .............. 2
     3. Positive attitudes toward physical activity? ......................................................................................... 1 .............. 2
     4. Regular participation in physical activity? ............................................................................................ 1 .............. 2
     5. Maintenance of a healthy fitness level? ................................................................................................. 1 .............. 2
     6. Development of fundamental motor skills such as running, skipping, throwing, or striking? ............... 1 .............. 2
     7. Development of specialized motor skills such as catching with a glove, a swim stroke, or tennis serve? 1 .............. 2
     8. Demonstration of responsible personal and social behavior in physical activity settings? ................. 1 .............. 2

7. Must students take any PE while they attend this school? Yes………….1 No…………..2

8. Can students at this school be exempted for...
   - Yes      No
     1. Religious reasons? .......................................................................................................................... 1 .............. 2
     2. Permanent physical disability? .......................................................................................................... 1 .............. 2
     3. Cognitive disability? .......................................................................................................................... 1 .............. 2
     4. High physical competency test score? .................................................................................................. 1 .............. 2
     5. Participation in other school activities such as sports teams, band, chorus or cheerleading? ............... 1 .............. 2
     6. Participation in community sports activities? ....................................................................................... 1 .............. 2
     7. Participation in community service activities? ...................................................................................... 1 .............. 2

9. At this school, in which grades do students receive required instruction in PE? MARK ALL THAT APPLY.

   K.................0  2nd .................2  4th.................4  
   1st .................1  3rd.................3  5th.................5  
   PE not required in any specific grades.............................................6

10. How many **weeks during the school year** are ____ graders scheduled to take PE?

    ____ Graders ____ Weeks  ____ Graders ____ Weeks  ____ Graders ____ Weeks
    ____ Graders ____ Weeks  ____ Graders ____ Weeks  ____ Graders ____ Weeks

11. On average, **how many days per week** are the ____ graders scheduled to take PE?

    1 Day .................1  0 Days one week, 1 day the next week...6
    2 Days .................2  1 Day one week, 2 days the next week...7
    3 Days.................3  2 Days one week, 3 days the next week .8
    4 Days.................4  3 Days one week, 4 days the next week .9
5 Days...........................5  4 Days one week, 5 days the next week 10
Other................................................................................................................11

(use code above for each grade that receive PE instruction)

_____ graders ______ days per week   _____ graders ______ days per week  _____ graders ______ days per week
_____ graders ______ days per week   _____ graders ______ days per week  _____ graders ______ days per week

12. On average, how many minutes is each session of PE scheduled to last? _____ Minutes

13. Who teaches physical education to students at this school. **MARK ALL THAT APPLY.**
   - Physical education teacher(s)..................1
   - Regular classroom teacher(s)..................3
   - Health education teacher(s) ..................2
   - Other(s) ...........................................4

14. Do students receive letter or numerical grades, pass/fail, or some other type of grades specifically for required PE at this school? **MARK ALL THAT APPLY.**
   - Letter or numerical grade...........1
   - Pass/Fail......................................2
   - Other ........................................ 3
   - No grades given for PE...........4

15. Are staff at this school allowed to use physical activity, such as laps or push-ups, to punish students for bad behavior in PE?
   - Yes.................1  No....................2

16. Are staff at this school discouraged, for example through memoranda or guidelines, from using physical activity to punish students for bad behavior in PE?
   - Yes.................1  No....................2

17. Are staff at this school allowed to exclude students from all or part of PE as punishment for bad behavior in another class?
   - Yes.................1  No....................2

18. Are staff at this school discouraged, for example through memoranda or guidelines, from excluding students from all or part of PE to punish students for bad behavior in another class?
   - Yes.................1  No....................2

19. Does this school offer opportunities for students to participate in intramural activities or physical activity clubs?
   - Yes.................1  No....................2

20. Must students pay an activity fee to participate in intramural activities or physical activity clubs?
   - Yes.................1  No....................2

21. Is the fee waived if the student cannot afford to pay?
   - Yes.................1  No....................2

22. Must students pay an activity fee to participate in interscholastic sports?
   - Yes.................1  No....................2

23. Is the fee waived if the student cannot afford to pay?
   - Yes.................1  No....................2

24. Currently, does someone at this school oversee or coordinate PE?
   - Yes.................1  No....................2

25. Are you this person?
   - Yes.................1  No....................2

26. Do you have an undergraduate degree?
   - Yes.................1  No....................2

27. What did you major in? **MARK ALL THAT APPLY.**
   - Physical education & health education combined ....1
   - Kinesiology .......................................5
   - Physical education ................................2
   - Exercise physiology .............................6
   - Health education..................................3
   - Exercise science ..................................7
   - Other education..................................4
   - Other ............................................8

28. Do you have a graduate degree?
   - Yes.................1  No....................2

29. In what area or areas? **MARK ALL THAT APPLY.**
   - Physical education & health education combined ....1
   - Kinesiology .......................................5
   - Physical education ................................2
   - Exercise physiology .............................6
   - Health education..................................3
   - Exercise science ..................................7
   - Other education..................................4
   - Other ............................................8
30. Currently, are you certified, endorsed, or licensed by the state to teach physical education in...
   | Yes | No |
---|-----|----|
1. Elementary school? | 1 ... | 2   |
2. Middle or junior high school? | 1 ... | 2   |
3. Senior high school? | 1 ... | 2   |
### Health Services School Questionnaire

What is your job title at the school? (In which role do you spend more time?)

1. Principal
2. Asst. Principal
3. School Secretary
4. Physical Education Teacher/Provider
5. Athletic Director
6. Health Education Teacher
7. Other Teacher
8. Food Service Manager
9. Other School Food Service Staff
10. Other Staff
11. Nurse

1. As I read the items on this card, please tell me if each is kept in any type of student record.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A physical health history?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. An emotional or mental health history?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. Tuberculosis skin test results?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. Screening records?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. Immunization or vaccination status?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. Medication needs?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. Dietary needs or restrictions?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. Physical activity restrictions?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. Emergency contact information?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. An authorization for emergency treatment?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11. Insurance coverage information?</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

2. Is there a system in place for notifying teachers when any of their students have... Any other chronic health condition, such as diabetes or asthma?  
Yes ................. 1  No............... 2

3. Is there a part-time or full-time school nurse who provides standard health services to students at this school?  
Yes..... 1  No...... 2

4. How many part-time or full-time school nurses provide standard health services to students at this school? _____ Nurses

5. Does the school nurse participate in the development of Individualized Health Plans, or IHPs?  
Yes........ 1  No....... 2

6. During the past 12 months, has the school nurse talked to or taught...  
1. Students at this school as part of a health education lesson or unit  
Yes............. 1  No............... 2

7. During the past 12 months, has the school nurse worked on standard school health services activities with...  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health education staff from this school?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Physical education staff from this school?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Food service staff?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Mental health or social services staff?</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

8. Is there a part-time or full-time school physician who provides standard health services to students at this school?  
Yes...... 1  No...... 2

9. Is there a physician who can be called to consult as needed during the school day?  
Yes...... 1  No...... 2

10. Are there part-time or full-time health aides who help provide standard health services to students at this school?  
Yes...... 1  No...... 2

11. Are health aides at this school required to work under the supervision of a nurse or physician at all times?  
Yes...... 1  No...... 2

12. During the past 12 months, has this school...  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Provided families with information on the standard school health services program?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Met with a parents’ organization, such as the PTA, to discuss the standard school health services program?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Invited family members to tour the standard school health services facilities?</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

13. Does this school have  

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A sick room, nurse’s office, or other area reserved for providing standard health services?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A scale?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A blood pressure gauge and cuff?</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

44
4. A peak-flow meter, not just for a specific individual’s use? ...................................................... 1 ............ 2
5. A glucose meter, not just for a specific individual’s use? ........................................................... 1 ............ 2
6. Hemoglobin or hematocrit level test equipment? ...................................................................... 1 ............ 2
7. A nebulizer, not just for a specific individual’s use? ................................................................. 1 ............ 2
8. A stadiometer, measuring tape, wall chart or anything else to measure height? ......................... 1 ............ 2

14. Are most students from this school screened at the school for height and weight or body mass?  
Yes……1    No……2

15. At this school, in which grades are students usually screened for the items listed in Q14?  
K......................0  2nd ................2  4th ....................4  1st ...................1  3rd ....................3  5th ....................5

16. What does the school do when a student’s screening indicates a potential problem.  
MARK ALL THAT APPLY.  
Notify the student’s parents or guardians ...............................1  
Notify the student’s teachers ..................................................2  
None of the above .................................................................3

17. Do health services staff provide...  
Yes  No

1. Nutrition and dietary behavior counseling, including weight management?........1 ....................2
2. Eating disorders prevention? ................................................................................1 ....................2
3. Physical activity and fitness counseling? .............................................................................1 ....................2

18. Who provides the services listed in Q17 in one-on-one or small-group discussions?  
MARK ALL THAT APPLY.  
School nurse...............................1  Health aide ................................3  
School physician........................2  Other..........................................4

19. Currently, does someone at this school oversee or coordinate standard health services?  
Yes.............1    No.............2

20. Are you this person?  
Yes.............1    No.............2

21. Who do you work for...  
MARK ALL THAT APPLY.  
School district..................................1  A local mental health or social services agency....5  
This school .........................2  A university or medical school .........................6  
A local health department ....3  A managed care organization.........................7  
A local hospital.................4  Other................................................8

22. What is the highest grade or year of education you have completed?  
Less than high school..............1  Undergraduate degree ..........4  
High school or GED...............2  Master’s degree .......................5  
Associate’s degree ............3  Doctoral degree......................6

23. What did you major in?  
MARK ALL THAT APPLY.  
Nursing ....................................1  Public health............5  Biology or other science ......8  
Health care administration ...2  Business ...............6  Counseling .......................9  
Psychology............................3  Social work ...............7  Education ........................10  
Other........................................4

24. Do you have...  
Yes  No

1. An LPN’s license? ..................................................................................1 ....................2
2. An RN’s license? ...............................................................................1 ....................2
3. A medical doctor’s (MD’s) license? .................................................1 ....................2

25. Are you currently certified by a state agency or board to provide health services?  
Yes.............1    No.............2
Food Service School Questionnaire

What is your job title at the school? (In which role do you spend more time?)
1) Principal 5) Athletic Director 9) Other School Food Service Staff
2) Asst. Principal 6) Health Education Teacher 10) Other Staff
3) School Secretary 7) Other Teacher 11) Nurse
4) Physical Education Teacher/Provider 8) Food Service Manager

1. Does this school offer breakfast to students? Yes...................1 No....................2

2. Does this school...
   1. Offer a la carte breakfast items to students? Yes .................1 No ............2
   2. Participate in the USDA reimbursable School Breakfast Program? Yes.............1 No............2
   3. Offer any other breakfast meals to students? Yes .................1 No ............2

3. How long do students usually have to eat breakfast once they are seated? _____ Minutes

4. Does this school offer lunch to students? Yes...................1 No....................2

5. Does this school...
   1. Offer a la carte lunch items to students? Yes .................1 No ............2
   2. Participate in the USDA reimbursable National School Lunch Program? Yes.............1 No............2
   3. Offer any other lunch meals to students? Yes .................1 No ............2

6. What time do you usually start serving lunch to students? _____ Hour _____ Minute

7. What time do you usually stop serving lunch to students? _____ Hour _____ Minute

8. How long do students usually have to eat lunch once they are seated? _____ Minutes

9. Currently, does an outside food service management company operate the food service program at this school?
   Yes..... 1  No...... 2

10. Does the food service company provide...
    A la carte breakfast items...............1 .......2   Breakfast meals?............................1 ....... 2
    A la carte lunch items? ...................1 .......2   Lunch meals?.................................1 ........2

11. Does this school offer brand-name fast foods from companies such as Pizza Hut, Taco Bell, or Subway?
    Yes...... 1 No...... 2

12. In a typical week, on how many days are brand-name fast foods offered to students...
    Days/Week                                  Days/Week
    As a la carte breakfast items? ............../ / For breakfast meals? ...................../ /
    As a la carte lunch items?................./ / For lunch meals?........................./ /

13. Which group has primary responsibility for planning the menus for school breakfasts and lunches? Would you say...
    Staff working at the district food service office.....1   Fast food company staff .......................4
    School staff ........................................2   Someone else ...................................5
    Food service management company staff........3   No primary group............................6

14. Looking at this card, please tell me which techniques are used to plan the menus. MARK ALL THAT APPLY.
    Nutrient Standard Menu Planning (NuMenus) ....................1
    Assisted Nutrient Standard Menu Planning (Assisted NuMenus)........2
    Food-based menu planning (traditional or enhanced)..................3
    Some other technique .........................................4

15. When evaluating the nutritional content of foods served, is a weighted nutrient analysis used?
    Yes................1 No....................2

16. Which group has primary responsibility for deciding which foods to order for this school? Would you say...
    Staff working at the district food service office.....1   Fast food company staff, or ..................4
    School staff ........................................2   Someone else?...............................5
17. On a typical day, about how many students at this school receive... **Students**
   1. Free breakfasts? .................................................................
   2. Reduced-price breakfasts? ..............................................
   3. Paid breakfasts, that is, meals sold at full-price? ..............

18. On a typical day, about how many students at this school receive... **Students**
   1. Free lunches? .................................................................
   2. Reduced-price lunches? ...................................................
   3. Paid lunches, that is, meals sold at full-price? .................

19. Each week, are students at this school offered 5 or more foods containing whole grain? Yes........1 No........2

20. Each day for lunch, are students at this school offered a choice between... **Yes** **No**
   1. 2 or more different entrees or main courses? ......................1 ........2
   2. 2 or more different vegetables? ........................................1 2
   3. 2 or more different fruits or types of 100% fruit juice? .........

21. As part of school meals, are students offered... **Yes** **No**
   1. Cheese pizza with no meat topping at least once per week? ...1 ........2
   2. Deep-fried french fried potatoes, including fries that you just reheat, at least once per week? ...1 ........2
   3. Spaghetti or other pasta at least once per week? .................1 ........2

22. When salad dressing is offered to students, are they able to select a low-fat dressing? Yes........1 No........2

23. During a typical week, are students at this school offered a la carte selections such as... **Yes** **No**
   1. 100% fruit juice or 100% vegetable juice? .............................1 ........2
   2. Soda pop, sports drinks, or fruit drinks that are not 100% juice? 1 ........2
   3. Fruit? ....................................................................................1 ........2
   4. Bread sticks, rolls, bagels, pita bread, or other bread products? 1 ........2
   5. Low-fat cookies, crackers, cakes, pastries, or other low-fat baked goods? 1 ........2
   6. Cookies, crackers, cakes, pastries, or other baked goods that are not low in fat? 1 ........2
   7. Low-fat or nonfat yogurt? .....................................................1 ........2
   8. Pizza, hamburgers, or sandwiches? ....................................1 ........2
   9. Lettuce, vegetable, or bean salads? ....................................1 ........2
   10. Other vegetables? ..............................................................1 ........2
   11. French fried potatoes? ......................................................1 ........2
   12. Chocolate candy? .............................................................1 ........2
   13. Other kinds of candy? .......................................................1 ........2
   14. Salty snacks that are low in fat, such as pretzels, baked chips, or other low-fat chips?..1 ........2
   15. Salty snacks that are not low in fat, such as regular potato chips or cheese puffs?..1 ........2
   16. Low-fat or fat-free ice cream, frozen yogurt, or sherbet? .......1 ........2
   17. Ice cream or frozen yogurt that is not low in fat? .................1 ........2

24. At this school, are students able to get butter or margarine... **Yes** **No**
   1. In the serving line or on the tables? .................................1 ........2
   2. If they ask for it? .............................................................1 ........2

25. Is salt available to students... **Yes** **No**
   1. In the serving line or on the tables? .................................1 ........2
   2. If they ask for it? .............................................................1 ........2

26. When nutrient analysis is done on the foods served to students at this school, are the nutrients from breakfasts and lunches combined? Yes........1 No........2

27. During the past week, what was the percent of calories from total fat for breakfasts served to students at this school? __
   Percent total fat

28. During the past week, what was the percent of calories from saturated fat for breakfasts served to students at this school? __
   Percent saturated fat
29. During the past week, what was the percent of calories from **total fat** for **lunches** served to students at this school?  _____ Percent total fat

30. During the past week, what was the percent of calories from **saturated fat** for **lunches** served to students at this school?  _____ Percent saturated fat

31. During the past week, what was the percent of calories from **total fat** for **meals** served at this school?  _____ Percent total fat

32. During the past week, what was the percent of calories from **saturated fat** for **meals** served at this school?  _____ Percent saturated fat
Appendix E
Deadline Reminder and Extension Notice

To:
Joni Minton
Lynchburg-Clay Elem
St. Rte. 134
Lynchburg, OH 45142

From:
Lindsey Snyder
Miami University
Phillips Hall, 106K
Oak Street
Oxford, OH 45056

Just a reminder…..

Two weeks ago your school received an invitation to participate in my thesis project for my Master’s degree at Miami University. The deadline that was given to you was Friday, June 9, 2006.

Due to this being a busy time of year in your schools, I am extending the deadline to you. You and your staff have two more weeks to complete the survey and return it by Friday, June 23, 2006.

Any and all portions of the survey that you can complete and return will be very helpful. Due to a mailing error, some of you did not receive the self-addressed stamped envelope to return the survey. The surveys can be returned to the address on this post card or if you would like to have a new envelope mailed to you, please contact Lindsey at 937-302-0938.

Thank you for your time and participation in this project.
REFERENCES


Trust for America’s Health. Retrieved December 16, 2005 form: 