SINGLE PARENTS, TEACHERS, AND PRINCIPALS OF 4th and 5th GRADE AFRICAN AMERICAN STUDENTS IN TITLE I SCHOOLS: CONCERNS RELATED TO CHILDHOOD OVERWEIGHT IN TULSA, OKLAHOMA

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 2009

SINGLE PARENTS, TEACHERS, AND PRINCIPALS

OF 4th and 5th GRADE AFRICAN AMERICAN

STUDENTS IN TITLE I SCHOOLS: CONCERNS

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TULSA, OKLAHOMA

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ACKNOWLEDGMENTS

I wish to express sincere appreciation to my major advisor and chairperson, Dr. Tay S. Kennedy, for her mentoring, guidance, patience, and encouragement. I would also like to thank my committee members, Dr. Janice Hermann, Dr. Deana Hildebrand, and Dr. Kathleen Kelsey for their support, guidance, and shared expertise. I would like to thank Dr. William Warde for guidance in designing and developing a survey, and Dr. Lucy Bailey and Dr. Ed Harris for introducing me to the unique perspectives and possibilities of qualitative research. In addition, the dissertation research project would not have been possible without the collaboration of colleagues at the Tulsa Health Department and the generous participation of the parents, teachers, and elementary school principals in the Tulsa Public Schools who gave of their time, energy, experience, and valued opinions.

I would like to express sincere appreciation and thanks to my family, my husband Bruce and sons Bruce, David, and Paul, who are my joy and inspiration. Without their steadfast support, unwavering confidence, and constant encouragement, this journey would not have been possible. I would like to acknowledge my parents, Wayne and Norma Hufford, who instilled and nurtured a value for life-long learning and to whom I am forever grateful.

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CHAPTER I

INTRODUCTION

The substantial rise in the prevalence of childhood obesity in the past two decades has led to increased awareness of the problem among researchers, parents, school staff, and healthcare workers. As a society, we have begun to recognize this clear and present danger to a vulnerable population (Sutherland, Gill, & Binns, 2004) and in our haste to respond quickly and expedite a solution to this escalating problem, we are perhaps missing an important step in ensuring the success of our efforts. With a heightened interest in the "obesity epidemic," communities are, in a sense, trying to jump onto a moving train by quickly implementing programs, but in unsustainable ways.

Top down initiatives often do not consider problems in implementation and the multidimensional nature and complexities of this issue. Teachers often do not buy in to obesity prevention programs (Sutherland et al., 2004) and parents often do not recognize the problem (Garcia, 2004). If children learn about nutrition or physical activity in school, parents may not support the child's efforts to make lifestyle changes. Interventions implemented in this context are not sustainable (Murphy & Polivka, 2007; Sutherland et al., 2004). Little formative research has been done to ascertain the attitudes of key stakeholders regarding the factors contributing to childhood obesity

(Sutherland et al., 2004). The attitudes of parents, teachers, and principals about the school's role and the family's role play a significant part in shaping their response to, their participation in, their support of, and ultimately the success of all obesity-prevention efforts. To ensure that an implemented program is sustainable, we must explore the environmental context including the attitudes and beliefs of key stakeholders. Formative research is needed to inform policies and shape programs that could increase physical activity and change food choices over the long term among children at highest risk for obesity by ensuring that interventions are sustainable.

Problem Statement

School-based nutrition programs are designed to prevent or reduce overweight in children, but many programs are not effective or not sustainable and the attitudes and beliefs of key stakeholders may be a contributing factor. Childhood obesity has become a priority public health concern. There have been calls to action ("Overweight and Obesity Threaten U.S. Health Gains," 2001) and the level of concern has resulted in numerous prevention programs based on various strategies (Berg, Buechner, & Parham, 2003; "Guidelines for childhood obesity prevention programs: Promoting healthy weight in children," 2003; Krebs & Jacobson, 2003).

School-based childhood nutrition programs are effective in some schools, but not in others and many of the programs are not sustainable over time. A meta-analysis of school-based obesity prevention programs for children (Atkinson & Nitzke, 2001) observed that, although knowledge and awareness often increased, there was usually no appreciable change in the eating habits and fitness level of the children who participated

in them. In a meta-analysis including twelve school-based interventions (Bautista-Castano, Doreste, & Serra-Majem, 2004), three were effective, six were categorized as not effective, two were effective for girls only, and one program was effective for boys only. In a meta-analysis of 21 large, controlled, school-based intervention studies, O'Dea (2005) found that of 21 programs examined, 17 reported an improvement in at least one aspect of knowledge, beliefs, attitudes or behaviors. Among studies that included children aged 9-12 in this meta-analysis, one of the studies (Smolak, Levine, & Schermer, 1998) reported that patterns of behavior related to eating, exercise, weight loss attempts, and teasing of overweight children were not changed by the program. Another study (Dalle Grave, de Luca, & Campello, 2001) reported that knowledge increased but there were no significant differences in eating behaviors, dietary restraint, weight or shape concerns or self-esteem associated with the intervention. Still another study (Kater & Londre, 2002) reported that both intervention and control groups improved on most scales. And one study (McVey, Davis, Tweed, & Shaw, 2004) found that increased body satisfaction was not maintained at follow-up.

The attitudes and beliefs of key stakeholders about childhood overweight may be more conducive to implementation and sustainability of overweight prevention programs in some schools than in others. As strategies for successful implementations, O'Dea (2005) suggested that teachers and school personnel should be given the training and skill development to enable them to reflect on their own beliefs, values and attitudes about body image. She also suggested the development of collaborative relationships between school staff, communities, families and teachers. Knowledge of the attitudes of parents, teachers, and school principals could affect how we market our efforts, how we secure

funding and enlist support from key stakeholders for obesity-prevention programs, and most importantly how we are able to sustain momentum and produce measurable results over time.

Purpose/Research Questions

The goal of this research was to explore the attitudes, behaviors, roles, and perceptions of barriers to participation in school-based overweight prevention and treatment programs by single parents, teachers, and principals of 4th and 5th grade African American students in Title I elementary schools in Tulsa, Oklahoma, and to give voice to the concerns of these stakeholder groups. The research questions are:

1. What are the attitudes of single parents, teachers, and principals of 4th and 5th grade African American students in Title I schools regarding factors contributing to child overweight?
2. What role do single parents, teachers, and principals of 4th and 5th grade African American students in Title I schools believe schools should play in preventing child overweight?
3. What barriers do single parents, teachers, and principals of 4th and 5th grade African American students in Title I schools perceive regarding participation in school-based overweight prevention programs?

Assumptions of the Study

Principals accurately scored their attitudes and beliefs on the survey. The researcher assumes the subjects' responses to this sometimes difficult and sensitive topic on the survey and in interviews to be truthful. Subject position, or bias, is accurately identified in the interview field notes to allow others to determine if they would come to the same conclusion given the same data.

CHAPTER II

REVIEW OF LITERATURE

The prevalence of overweight among U.S. children increased between 1980 and 2004; it has doubled in the past twenty years and tripled in the past thirty years. Using data from 2005-2006, Ogden and colleagues (Ogden, Carroll, & Flegal, 2008) updated the most recent national estimate and found no significant change from 2003-2004 to 2005-2006. In 2003-2006 data, 11.3% of children and adolescents aged 2-19 years were at or above the 97th percentile of the 2000 BMI for age and gender growth charts (95% Confidence Interval [CI] 9.7% - 12.9%), 16.3% were at or above the 95th percentile (95% CI, 14.5% - 18.1%), and 31.9% were at or above the 85th percentile (95% CI, 39.4% - 34.4%). The increase seen in previous data between NHANES III (1988-1994) and NHANES 2003-2004 was not observed in data from the four year period 2003-2006. Additional data from 2007-2008 and beyond are needed to examine whether the trend has reached a true plateau or whether the recent data are a statistical anomaly (Ebbeling & Ludwig, 2008).

A similar potentially stabilizing phenomenon has been noted in recent data from France (Lioret et al., 2009; Peneau et al., 2009). Leioret and colleagues (2009) assessed the current prevalence of childhood overweight in France and its relation to SES indicators compared to the previous Individuelle Nationale des Consommations

Alimentaires (INCA 1) 1998-1999 data. A representative sample (n=1,030) of children aged 3-14, was taken from the INCA 2 20006-2007 food consumption survey. Compared to the INCA 1 study, energy intake (average 1,739 kcal/day) was lower, screen time (113.5 min/day watching TV and 38.5 min playing video games or using a computer/day) was higher, and overweight and obesity prevalence was not significantly different. Overall 14.5% of the children were overweight or obese according to the International Obesity Task Force (IOTF) definition. Peneau and associates (2009) described the prevalence of overweight in children aged 6 to 15 years in central/western France from 1996 to 2006. The prevalence increased from 11.5% in 1996 to 14.8% in 1998 and was stable at 15.2% from 1998 to 2006.

As awareness of the prevalence of childhood obesity increases, scientific literature examining causes and potential preventative measures is growing and rapidly expanding (Newby, 2007). Perspectives on the problem include not only an imbalance in energy intake and expenditure, but also the pivotal role of the physical, psychological, social, and population level environmental context within which eating behaviors and physical activity choices occur and obesity determinants operate.

Definitions of Overweight

The World Health Organization considers obesity a disease defined by excess body fat to the extent that health is impaired (*World Health Organization (WHO). Obesity: preventing and managing the global epidemic: Report of a WHO consultation. Geneva, Switzerland: World Health Organization, 2000.*). A more commonly used measure is based on the Centers for Disease Control and Prevention's 2000 CDC Growth Charts (Kuczmarski et al., 2000) developed for U.S. children aged 2-19 years using data

collected between the 1960s and 1994 in five national data sets. For children, overweight and at risk for overweight is relative to Body Mass Index (BMI=weight (kg)/height $(m)^2$) for age and gender. "Overweight" is defined as a gender and age specific BMI greater than or equal to the 95th percentile, and "at risk for overweight" is a gender and age specific BMI greater than or equal to the 85th percentile and less than the 95th percentile of the CDC Growth Charts.

Overweight Patterns and Disparities among US children

In the National Health and Nutrition Examination Survey (NHANES) data collected during 1999-2004, approximately 35% of children aged 6-19 years were at risk for overweight or overweight, and almost 17% were overweight. In 2003-2006, 16.3% of children and adolescents aged 2 through 19 years were overweight and 31.9% were at risk for overweight (Ogden et al., 2008). Ethnic and socioeconomic status groups are affected disproportionately (Thorpe, List, Marx, Helgerson, & Frieden, 2004). Wang and Beydoun (2007) observed that the prevalence of overweight is higher for some minority and low-SES groups, including non-Hispanic Black and Mexican-Americans, Native Americans and Pacific Islanders Combined prevalence was 28.2%, 35.4%, and 39.9% among 6-19 year-old Non-Hispanic White, non-Hispanic Black, and Mexican-Americans, respectively. Conversely, Asian American children have a lower prevalence of overweight. National average prevalence is similar between boys and girls overall, but large gender differences exist in some ethnic groups. A larger gender gap exists among non-Hispanic Blacks and Mexican-American children compared with non-Hispanic Whites (Wang & Beydoun, 2007). Racial/ethnic disparities are apparent among young children and within similar SES groups.

Environment

The recently coined term "obesogenic environment" refers to one that is not conducive to losing weight and, in fact, favors gaining weight. An environment that encourages consumption of energy-dense foods that are inexpensive and palatable is coupled with labor-saving devices and technology that have freed us from much of the physical exertion required in the past to produce, procure, and prepare food, to earn a living, or even to enjoy recreation. Swinburn and Egger (2004) propose that the increasing prevalence of overweight is fueled by a series of vicious cycles, operating in an obesogenic environment, that combine effects to accelerate weight gain and hinder weight management efforts. This phenomenon they describe with the metaphor of a runaway weight gain train with ineffective brakes and multiple accelerators. The tracks run downhill because unhealthy choices are easy and result in high energy intake and low physical activity. Several "brakes" that should act against weight gain are social stigma, physical discomfort, and biological homeostasis mechanisms.

The fact that these forces are not stopping the train argues, according to Swinburn and Egger, that the accelerating forces are very powerful, and are in fact vicious cycles or positive feedback loops. The first cycle described is movement inertia. A heavy body is a disincentive for physical activity and reduced physical activity promotes more weight gain. The mechanical dysfunction cycle is associated with co-morbidities of increased weight, including arthritis, low back pain, diaphragm restriction, oedema, and sleep apnoea leading to difficulty walking and moving. The psychological dysfunction cycle they describe is, for some, body dissatisfaction and social stigmatization accompanied by depression, anxiety, low self esteem and guilt. The related feelings may lead to increased

energy intake or reduce physical activity due to decreased motivation or lethargy. The dieting cycle or yo-yo dieting may lead to weight loss that is not sustainable and which results in subsequent weight gain and a sense of failure. They describe another cycle related to low socioeconomic status in developed countries. Low SES is associated with higher prevalence of obesity. Obesity may lead to reduced opportunities and a lower income reduces healthy choices and increases chronic stress which may lead to eating for comfort. As Swinburn and Egger propose, the combination of cycles act as multiple accelerators against what may be an ineffective set of braking mechanisms in an increasingly obesogenic environment. This metaphor helps to explain, on a conceptual level, what is meant by an obesogenic environment and points to opportunities for specific interventions to diminish the driving forces that promote weight gain in individuals and society. It also points out the need to focus on prevention, beginning with children.

Contributing Factors

Although many investigators have explored various drivers of the obesity epidemic, no one theory has emerged that explains all the factors that contribute to overweight and obesity. Physical activity and eating behaviors are influenced by a multitude of inter-related contributing factors (Ford & Dzewaltowski, 2008). Some factors such as activity level and food behaviors are amenable to change on an individual basis. Some, including genetic predisposition and fetal exposure are, realistically, beyond the reach of intervention programs. Other factors such as built environment and media influences may be best addressed on a societal level. The overweight contributing factors

discussed briefly below illustrate the complexity of the phenomenon that has come to be known as an obesogenic environment.

Physical inactivity

An increase in sedentary activity such as television viewing, together with an overall decrease in physical activity contribute to an increased incidence of overweight and at risk of overweight in children and adolescents (Dowda, Aimsworth, Addy, Saunders, & Riner, 2001). The CDC website www.cdc.gov/nccdphp/physical recommends that parents help children meet the activity goal of at least 60 minutes of moderate-intensity physical activity most days of the week by being role models, making pleasant physical activity a part of family life, monitoring screen time, and intervening if the amount of time spent in sedentary activities is too high ("Centers for Disease Control and Prevention (CDC). Physical activity for everyone,"). In the past 15 years, the amount of time spent in physical education has decreased and time in class does not correlate with physical activity. Some have argued this is related in part to a school testing climate. Spear and associates (2007) reported that only 8% of elementary schools provided daily physical education or met the recommended amount of time per week. The authors recommended that consideration be given to the types of activities in physical education classes because time in class did not track with the amount and intensity of physical activity performed by the students.

Television watching and "screen time"

As noted above, sedentary television viewing and other forms of "screen time" are often accompanied by a decrease in physical activity. Strong evidence exists of a behavioral risk for childhood overweight associated with television viewing. In a study

representative of a cross section of the US, based on data collected by the National Health and Nutrition Examination Surveys 2001-2004, 37.3% of 4 to 11 year old children had low levels of active play, 65.0% had high screen time, and 26.3% displayed both behaviors. The probability of a child exhibiting both low active play and high screen time increased with age, female gender, non-Hispanic black race/ethnicity, and BMI for age >95th percentile of the CDC growth charts (S. E. Anderson, Economos, & Must, 2008). In this study, low active play was considered to be playing or exercising hard enough to sweat or breathe hard six or fewer times per week, as reported by the parent. High screen time was more than two hours per day watching television or videos, using a computer or playing computer games, as reported by a parent. The authors concluded that many young U.S. children, as reported by their parents, display screen time and physical activity behaviors that are inconsistent with healthy developmental recommendations. Overweight children and those approaching adolescence, non-Hispanic blacks and females are more likely to have both low physical activity and high screen time and may receive the most benefit from programs or policies aimed at changing these behaviors. Television viewing often displaces physical activity and, at the same time, is associated with increased snacking between meals (*Healthy People 2010: Understanding and Improving Health. 2nd ed*, 2002).

Advertising and media influences

The average American child views thousands of television food messages per year (Harris, Pomeranz, Lobstein, & Brownell, 2009). In a review of studies on the effects of food marketing to children, Livingstone (2005) concluded that a consensus exists among researchers that there is a causal link between food promotion and

children's preferences and behavior. In response to a request from Congress in 2004, the CDC examined the marketing of foods directly to children. The resulting Institutes of Medicine (IOM) report (McGinnis, Gootmar, & Kraak, 2006) supports links between food marketing and children's preferences, requests for specific items, consumption and adiposity. Television is the predominant media, but product placement in toys, games, and movies as well as celebrity endorsements and the internet create brand recognition in very young children. Candies, snacks, soft drinks, and sweetened cereals are heavily promoted to children (Nestle, 2006). Junk foods represent a substantial source of revenue for food companies. In response to litigation and an increasingly heated debate, marketers are beginning to set voluntary restrictions on products marketed directly to children (Wiggins, 2007), but young children, who are a growing consumer segment with powerful cravings, lack the cognitive and social skills to evaluate sophisticated messages (Seiders & Petty, 2007).

In Europe also, increasing levels of obesity in children are causing concern. The effects of food marketing on children's diets was explored recently by the Children, Obesity and associated avoidable Chronic Diseases project (Matthews, 2007). Data related to food promotion to children were collected from 20 European Union countries. Findings were that savory snacks and confectionary were most commonly marketed and consumed by children, and that television was the prime medium, with increasing use of in-school and internet marketing. Few of the governments restricted marketing to children and most expected the food industry to self-regulate. Recommendations from the study included amending the EU TV without Frontiers Directive to prohibit advertising

unhealthy food to children, to develop a common EU definition of an unhealthy food, and to monitor food marketing to children.

The media influence perceptions about the desirability of food, beverages, eating away from home, and nutrient content. These perceptions can result in changed food behaviors related to the choice of food and beverages and the frequency of eating low nutrient, calorie-dense foods.

Food Behaviors

In recent decades, the intake of sweetened fruit drinks and soft drinks among U.S. children has increased dramatically. Citing a 2005 report by Murphy and colleagues (Murphy et al., 2005) , Spear and associates noted that soft drinks accounted for more than half of total beverage consumption (Spear et al., 2007). Increased consumption of soft drinks is often accompanied by lower intake of milk. Intake of dairy foods has been found to be lower among overweight 9-14-year-old youths than their non-overweight counterparts (Rockett, Berkey, Field, & Colditz, 2001).

Skipping breakfast, eating out, and frequency of eating fried foods are also linked with overweight in children. Overweight children are more likely to skip breakfast than leaner children. Children who eat breakfast may consume less fat and fewer snacks throughout the day (Dwyer et al., 2001). Eating away from home, particularly at fast food outlets, may be related to BMI z-scores among adolescents. The frequency of fried food intake away from home was found to be associated with increased intake of energy, sweetened beverages, and *trans fats;* and with lower consumption of low-fat dairy foods, fruits, and vegetables (Spear et al., 2007).

Given the countless exposures to marketing and the changing food behaviors of children, coupled with their increasingly sedentary lifestyle, it is important that parents be aware of how these contributing factors may be affecting the health of their children. Unfortunately, the literature suggests that parents are largely unaware of whether their children are overweight and when to take action.

Parental awareness

Although parental beliefs and attitudes are important in addressing childhood overweight, the literature suggests many parents are not aware of the potential health consequences or even whether their child is overweight or at risk of overweight (Baughcum, Chamberlain, Deeks, Powers, & Whitacker, 2000). In a study of 662 mother-child dyads of diverse socioeconomic status, race, and U.S. location, only 21% of mothers correctly identified their overweight children as being overweight. One third of those who did correctly identify their child as overweight did not believe their child's overweight to be a health concern.

Jain and colleagues (2001) conducted a qualitative study of 18 mothers of overweight preschool children who participated in the Women, Infants, and Children (WIC) program. Their findings were that only 11% of the mothers correctly identified their children as overweight. The mothers did not trust the interpretation of growth charts and, instead, recognized a problem if their child grew out of clothes too quickly, was teased at school, or was limited in physical activity. The mothers in this study viewed the problem as genetic and referred to their children as "thick", "solid", or "big-boned." These references to genetic factors may influence parental decision making and responsiveness to programs.

Built environment

"Built environment" refers to buildings, roads, parks, utilities, homes, civic areas, and all physical things constructed by man as an aid to human activity including urban design, land use, and public transportation. Environmental factors may play a major role in obesity-related behaviors such as physical activity (Gordon-Larsen, Nelson, Page, & Popkin, 2006) and researchers are increasingly concerned with how neighborhood physical environments influence children's physical activity opportunities and choices (Davison & Lawson, 2006; S. Kinra, R. P. Nelder, & G. J. Lewendon, 2000; Veitch, Salmon, & Ball, 2007).

Linking residential data of adolescents in the U.S., based on the 1994-1995 National Longitudinal Study of Adolescent Health (N=20,745) with the locations of physical activity facilities within an 8.05 km (5 mile) radius of each adolescent, based on national databases and satellite data, Gordon-Larsen and colleagues concluded that blocks occupied by lower-SES and high minority groups had decreased access to physical activity facilities and increased prevalence of overweight and that this inequality in availability of physical activity facilities may contribute to the previously observed disparities in overweight patterns among ethnic and SES groups (Gordon-Larsen et al., 2006). The physical activity facilities counted within the radius of each adolescent included schools, and both free and fee-based public facilities as well as member-based facilities. Types of facilities included beaches, pools, tennis courts, and youth organizations, parks, YMCA, YWCA, physical fitness centers, dance and martial arts studios, sports and recreational camps, athletic clubs such as tennis and basketball, and gymnasiums.

The investigation of obesogenic environments is an emerging field with a few studies and dissimilar methods and measures (Booth, Pinkston, Walker, & Poston, 2005). Many existing studies used self-reported height and weight to calculate Body Mass Index and may underestimate obesity prevalence and risk. Indirect measures of the environment, such as census data and street network data approximate conditions in a neighborhood but may not be as accurate as a timely direct measurement. Some studies have created indexes of material and neighborhood deprivation and neighborhood safety to reflect the conditions of the people living in a neighborhood rather than the built environment (K. A. Kinra, R. P. Nelder, & G. J. Lewendon, 2000; van Lenthe & Mackenbach, 2002).

Preliminary evidence is that neighborhoods have been associated with health outcomes (Lee & Cubbin, 2002) and physical environments can influence health (Feldman & Steptoe, 2004). Results of a review by Booth and associates (Booth et al., 2005) indicate a relationship between features of the built environment and an area's prevalence of obesity. Inequality in the built environment may help explain disparities in physical activity, healthful eating behaviors and obesity prevalence (Gordon-Larsen et al., 2006). Other studies have shown that opportunities to exercise afforded by access to facilities is a predictor of physical activity (Saelens, Sallis, & Frank, 2003; Sallis, Prochaska, & Taylor, 2000).

For example, a behavioral mapping study (Veitch et al., 2007) of active free play among Australian children aged 8-12 examined children's access to safe public open spaces in their neighborhood, difficulties finding opportunities to be active, and variances by age, gender, and socioeconomic status. An innovative technique for information

gathering from children was employed by providing children with a map including the area around their school and a set of colored pens. Each child was asked to mark where they live on the map with an “X” in black and to mark with an “X” in purple where they had been physically active or engaged in active play in the past week. They also marked in blue the park/playground where they go the most and in green where they ride or walk without an adult. Local landmarks and parks were highlighted on the maps and poster-sized photographs of parks and open spaces were on display. Assistance was provided by investigators and teachers when needed. These behavioral maps of their neighborhood were completed by 323 children from five primary schools throughout Melbourne. Findings were that opportunities to engage in active free play may be limited for some children due to lack of parks in local neighborhoods and restricted mobility of the children. Children living in low SES neighborhoods had to travel greater distances than those in mid- and high-SES areas to access local parks.

Evidence from recent studies has prompted a number of investigators to advocate the use of city planning to combat the rise in the prevalence of obesity. Two interventions that successfully incorporated changes to the built environment in the U.S. and abroad are discussed later in the Community Interventions section. Another view (Eid, Overman, Puga, & Turner, 2008) cautioned that we should not yet rush to redesign neighborhoods because the link between urban sprawl and obesity is not necessarily causative; rather, many of the individual characteristics that affect obesity may also influence neighborhood choices. For instance, a person who does not like to walk is more likely to be obese and also more likely to prefer a neighborhood that is conducive to travel by car.

James F. Sallis, director of the Active Living Research Program of the Robert Wood Johnson Foundation and professor of psychology at San Diego State University, said recently at Cornell's Ecology of Obesity conference (Winter, 2005) that "one of the keys to stemming the obesity epidemic is to create environments that make healthy choices easy choices." His research program studies how the built environment can help people lead more active lives including integrating physical activity into their daily lives such as by walking to and from school or to the grocery store. The Robert Wood Johnson Foundation has promoted active living projects over the past five years with an expenditure of more than $75 million.

The retail food aspect of the built environment can contribute to observed disparities. Ford and Dzewaltowski reviewed the literature on U.S. food environments (Ford & Dzewaltowski, 2008) and hypothesized that geographic, ethnic, racial, and SES disparities in obesity result from disparities in the retail food environment. Further, they posit that in disadvantaged areas, a person's limited resources together with a poor quality retail food environment, one with limited accessibility and availability of healthful foods, contribute to increased risk of obesity. Within socioeconomically disadvantaged populations, including racial and ethnic minorities, the risk is increased. Residents of lower socioeconomic status neighborhoods may have limited access not only to recreational facilities but also to food stores that offer healthful and affordable fruits, vegetables, and whole grain products. Thus, unhealthy eating behaviors and patterns may result from neighborhood level factors (Ford & Dzewaltowski, 2008).

In spite of best efforts to improve personal choices and societal influences, a few contributing factors are beyond the scope of current technology and change efforts. Genetic predisposition and fetal environmental influences are already in motion at birth.

Genetic predisposition

Genes may be responsible for an increased susceptibility to obesity, but no dominant gene or metabolic marker that is necessary and sufficient to cause obesity has yet been discovered (Booth et al., 2005; Bouchard, 1995) or can account for the recent surges we are witnessing in American society.

Studies of identical twins provide evidence of the influence of a genetic predisposition to obesity. Bar-Or and colleagues (1998) demonstrated, during 100 days of overfeeding by 1000 kcal/day, that the amount of weight gained, percent and location of body fat were similar in twin siblings. Genetics may account for 25-40% of individual differences in body mass and body fat. A susceptibility to overweight given an energy imbalance may be inherited. In a susceptible population, changes in energy intake could trigger weight gain (A. S. Anderson et al., 2005).

Fetal environment

The Fetal Origins Hypothesis (Eriksson, 2005) and the Developmental Over-nutrition Hypothesis (Ding & Hu, 2008) offer two potential explanations for how the fetal environment may induce a predisposition for obesity as an adolescent or adult. One hypothesis addresses under-nutrition in the womb; the other addresses over-nutrition in the womb. Both suggest the possibility of obesity developing later as a result of conditions in the womb.

The Fetal Origins of Disease hypothesis states that the susceptibility to certain diseases later in life can be programmed into the fetus while it is developing within the mother's uterus. According to the Fetal Origins Hypothesis, it is the nutritional conditions within the womb that "program" the developing fetus of an undernourished mother to develop chronic diseases in adulthood. Those who are small at birth and later become overweight adults are at highest risk of certain chronic diseases in adulthood. This phenomenon is known as the "Thrifty Phenotype." In order to adapt to under-nutrition in fetal life, the fetus undergoes permanent metabolic and endocrine changes. Those changes would be beneficial if nutrition remained scarce later in life, but if the situation reverses and nutrition later becomes plentiful, obesity and impaired glucose tolerance result (Eriksson, 2005). That can lead to non-insulin-dependent diabetes mellitus and cardiovascular disease. Thus, under-nutrition in the womb can "program" the fetus for the development of chronic diseases in adulthood.

On the other hand, the higher levels of glucose and free fatty acids that a fetus may be exposed to within the womb of an overweight or obese mother may cause permanent dysregulation of hormones and appetite control. Impaired energy metabolism in the developing fetus would increase adiposity in the offspring and raise the risk of obesity (Lawlor et al., 2008). The fetal programming of metabolism created by the adverse environment of over-nutrition in the uterus could lead to obesity in adolescence and young adulthood (Ding & Hu, 2008). Thus, obesity could become self-propagating in a cycle passed from one generation to the next independent of genetics or external environment. Lawlor et al. explored this hypothesis by comparing pre-pregnancy BMI in the mother and father with offspring fat mass at 9 to 11 years and found that greater

maternal BMI during offspring development did not have a marked effect on fat mass in the offspring at age 9-11 years. They concluded that developmental over-nutrition, as reflected in greater maternal BMI, is an unlikely driver for the recent increase in prevalence of overweight in children.

International issues

The obesity epidemic is global, but a disparity exists both within and between countries. Excess weight is more prevalent in socially advantaged groups in low income countries but is more prevalent in disadvantaged groups within affluent societies. Thus, as income rises in a country, obesity tends to shift from the privileged to the poor (Elinder, 2005). The unequal distribution of obesity is a product of the complexities of global, national, and local systems (Friel, Chopra, & Satcher, 2007) and the cultural meanings of food that influence how we live. Energy dense foods are mass produced and marketed while developments in technology lead to a sedentary lifestyle in developed countries. Overproducing food also can have detrimental effects on health in other countries as export subsidies and import tariffs combine to stunt the agricultural growth of developing nations. In this way, Elinder suggested that subsidizing overproduction in Europe negatively affects health of people in Europe and Africa (Elinder, 2005) and that continued subsidy through agricultural policy is counter-productive.

Popkin (2006) noted a global health challenge as a major nutrition transition is taking place toward a diet marked by higher intakes of animal fat and partially hydrogenated fats and by lower intakes of fiber. This transition is accompanied by reduced energy expenditure in the home, at work, and at leisure due to technological advances. These global shifts in activity patterns are less well documented than the shifts

in nutrition patterns. Global problems that result in obesity occur in conjunction with problems that result in poverty and hunger in many countries. Hence, policy solutions to address obesity must not adversely affect the undernourished population.

To counteract these factors contributing to obesity, interventions are generally organized as family-based, school-based, community-based, or pharmacological and surgical-based. Family-based interventions rely on the home environment and the influence of parents, siblings, and other family members to support health-related changes. School-based interventions leverage the fact that, during the school year, children spend the majority of their waking time at school, take one or two meals per day in the school, and have access to physical education equipment, fitness experts, and teachers as role models. Community-based interventions, recognizing that many influences outside of home and school affect the health of children, take a comprehensive environmental approach that attempts to encompass all aspects that touch children, including legal perspectives and policy decisions. Pharmacological and surgical interventions are individualized and physician-directed. A few examples of each type of intervention follows.

Family-based Interventions

Family dynamics, the home environment and parental support affect overweight treatment outcomes. Families influence food choices, food preparation methods, access to facilities for play and exercise (Dietz & Gortmaker, 2001). Family-based programs typically involve parents, provide dietary education, decrease sedentary behaviors and increase physical activity. Family values, reinforcement and parental support are all

critical to successful treatment and prevention. Behavior modification programs that are family based and in which parents are the change agents may help children lose weight (P. Wilson, O'Meara, Summerbell, & Kelly, 2003).

An example of a family-based approach to weight management through small changes is given by Rodearmel and associates (2006) who evaluated a program to increase steps and cereal consumption to reduce weight gain in both adults and 8-12 year-old overweight or at risk for overweight children in 105 families. During the 13 week intervention, participants increased daily steps by an average of 2000 and increased consumption of ready-to-eat cereal by two servings per day. Significant effects included percentage BMI for age and percentage body fat improvement for target children and weight, BMI, and percentage body fat improvement for parents. Because the number of participating mothers (78) was greater than the number of participating fathers (47), the authors then analyzed results separately by gender. Significant differences were found between the experimental and control groups for both girls and moms, but not between groups for either boys or men. A three-year family-based education program in Italy (Tanas, Marcolongo, Pedretti, & Gilli, 2007) included 85 families of obese or overweight children, aged 3-18 years in the intervention group who received a therapeutic education program (TEP) and a control group of 105 families of overweight or obese children treated with a traditional dietary approach. This was a retrospective, non-randomized, non case-controlled clinical study. The three-step TEP was carried out by a skilled pediatrician and involved assessment and education in single family and small group sessions. The TEP included a one hour, single family initial consult to assess children’s eating behavior, knowledge and beliefs about obesity, physical activity, self-esteem and

body image and to explore the point of view of family members. Next came a two hour small group session to emphasize the importance of role models, family involvement and positive reinforcement as well as self-monitoring skills for daily food and caloric intake. After two months, a 40 minute meeting was held with each child and parents for feedback and discussion of risks, barriers and problems and to set a personalized follow-up schedule. At follow-up, 72.9% of the children who received the Therapeutic Education Program had a BMI% reduction, compared to 42.8% of children with traditional dietary treatment.

School-based Interventions

School-based programs combining physical activity and healthful eating may provide the best opportunity to lower risk of chronic diseases in later life (Veugelers & Fitzgerald, 2005). The American Dietetic Association recommends that the most effective school-based strategies for changing eating behaviors involve a clear message that is reinforced, family involvement, and a theoretical framework for the behavior change ("Position of the American Dietetic Association: individual-, family-, school-, and community-based interventions for pediatric overweight," 2006).

Successful school-based programs include the Pathways study which found positive changes in fat intake and in knowledge, attitudes, and behaviors related to food and health, and the Child and Adolescent Trial of Cardiovascular Health (CATCH), a multiyear coordinated elementary school program that found students in third to fifth grade consumed less fat and were more active physically in school and in other environments (Hoelscher et al., 2001). Planet Health (*Planet health; an interdisciplinary curriculum for teaching middle school nutrition and physical activity*, 2007), achieved a

reduction in overweight by promoting nutrition and physical activity while reducing the amount of television viewing. The Girls Health Enrichment Multisite Study (Obarzanek & Pratt, 2003) noted positive behavioral change related to prevention of obesity in African-American girls in elementary schools.

A meta-analysis of eight studies published since 2000 (Katz, 2009) found evidence that school-based interventions had significant effects on weight. Included studies were published in English, targeted children ages 3-18 over at least a six month period in a school environment, reported BMI or body weight and included either a control group or pre/post measures. All of these school-based interventions included multiple strategies such as family participation, classroom instruction, skill-building activities, changes to the physical environment, teacher training, or focus on games, dance or other forms of physical activity.

Foster and colleagues recently reported on a school-based intervention that reduced the incidence of overweight by 50% over a two-year period by altering the school nutrition environment in ten schools in the Philadelphia district. It did not reverse established obesity. The nutrition policy was changed in the intervention schools to limit beverages to 100% juice, water, and low-fat milk. Snacks were limited in fat, saturated fat, sodium, and sugar. All sodas, sweetened drinks, and snacks that did not meet standards were removed from the cafeteria line and vending machines. Education, family outreach, and social marketing with the message "Want strength? . . Eat Healthy Foods." were incorporated in the program and the message was reinforced with raffles, incentives, and frequent exposure. This program was more effective at reducing prevalence of overweight than reversing obesity.

Community-based Interventions

An example of a widespread community overweight prevention effort for children is found in the EPODE (Ensemble, prévenons l'obésité des enfants, or Together, let's prevent obesity in children) campaign initiated in ten French towns in 2004 (Westley, 2007). EPODE aims to involve local stakeholders in a sustainable way to prevent childhood obesity with a balanced, affordable, pleasant diet and more active children and families. The ten initial towns were Vitré in the region of Brittany, Royan in Poitou Charentes, Saint Jean in Midi Pyrénées, Evreux in Normandy, Roubaix in Nord Pas de Calais, Beauvals in Picardie, Asnières sur Seine, Meyzieu in Rhône Alpes, Béziers in Languedoc Rousillon, and Thiers in Auvergne. These towns volunteered for consideration and were selected based on diversity, acceptance of a long term health philosophy, a five year commitment of necessary funds, and signing of a commitment charter by the city. The number of children aged 5-12 in each of the ten regions ranges from 817 in Saint Jean to 21,000 in Roubaix. In this pilot study, primary prevention involved the entire community including parents and families, school practitioners, school nurses, teachers, school catering, towns, associations, and economic players. Secondary prevention included the medical body and town-hospital network. Prevalence of overweight including obesity decreased by 1.88% (from 18.88% in 2004-2005; 90% CI, 1.05 to 2.71%, p=0.0002). Prevalence of obesity decreased by 0.68% (from 4.14% in 2004-2005; 90% CI, 0.30 to 1.06%, p=0.003) (Summerbell, No Date).

As of November, 2008, the implementation of EPODE has expanded to include 167 cities in 12 regions in France, 30 cities in 7 regions in Spain, 8 cities in Belgium, and is launching in Greece, Québec (Canada) and Australia. Perceived success of the program

is measured by the pilot cities' field mobilization and changes in the BMI of children in France in the pilot cities. Controversially, EPODE is funded partially by stakeholders from industry who keep public costs down and are restricted by an ethical charter to ensure that commercial interests do not affect the program ("EPODE - Together Let's Prevent Childhood Obesity," 2008).

Economos and colleagues (2007) provided an example of one successful effort in the U.S. to prevent weight gain in young children by a Somerville, Massachusetts community based environmental change. A three year controlled trial involved Somerville as the intervention community and two demographically similar cities as control communities. Public elementary school children (n=1178) in grades one to three were targeted by the energy equation balancing intervention which actively engaged many individuals and groups in the community. In addition to children, parents, teachers and healthcare providers, the program involved city government, policy makers, restaurants, media, and both before- and after-school programs. The outcome measure was change in BMI z-score.

Full immersion in the community, involving all aspects that touch children and families, can provide healthful nutrition and physical activity opportunities and the creation of policies to ensure sustained change. This may be part of the reason that some school programs aren't necessarily effective and that some of the most effective programs are comprehensive and involve lots of stakeholders. Partnering with an entire community requires an upfront investment of time and energy to build relationships and expand the influence of partnerships, as well as to achieve buy-in and collaboration from all stakeholders and mobilize scarce community resources in a common cause (Economos et

al., 2007). The Shape Up Somerville intervention is one of the few controlled trials of a multifaceted community-based change to prevent overweight in children. It achieved a modest but significant decrease in BMI z-score (-0.1005, p=0.001) within what was described as an obesigenic environment. Components of the program included a breakfast program and walk to school campaign before school. During school hours, the program involved professional development in nutrition and physical activity for all school staff as well as changes in the school health office, school food service, classroom curriculum, play equipment for an enhanced recess period, and the development of a school wellness policy. After school programs included walk from school, professional development of staff, and family involvement activities. At home, the program included a health report card for the child, family events, and parent outreach through newsletters, coupons, and education. Among the community involvement initiatives were an advisory council, community "champions", farmers market, city ordinances on walkability and bikeability, wellness campaigns for city employees, ethnic/minority group collaboration, "approved" restaurants, fitness fairs, resource guides, and regular media placements. As part of the community-based participatory research (CBPR) approach, the program worked to help the community secure funding of $1.5 million from external sources to continue key intervention activities. Community-wide policies were developed to promote and sustain the changes (Economos et al., 2007).

Making community-level changes such as those cited above requires cooperation and collaboration on a large scale. Competing interests must be resolved and resources

must be marshaled. In some cases, laws must be changed or regulations put in place. Legal and policy issues related to community-based interventions are discussed below.

Legal Perspectives

Implementing regulations to affect the prevalence of obesity is fraught with challenges including legal and constitutional battles over existing statutes and potential political opposition in some areas. The potential use of regulatory methods to affect diet and activity in an effort to curb the obesity trend is explored by Hayne and colleagues (Hayne, Moran, & Ford, 2004). The rationale is economic. As an increasing percentage of the population becomes obese, human capital costs in terms of productivity losses, healthcare direct costs, and needed modifications to the infrastructure are borne by the entire community. Regulation may be an effective legal tool to influence the prevalence of obesity and thereby reduce the related costs to society. Similar efforts transformed smoking from an individual right to a subject of legislation. These are very complex debates.

The Obesity Working Group of the Food and Drug Administration was established in 2003 to examine the FDA's role in addressing health consequences of obesity. The Obesity Working Group encouraged manufacturers to list the nutritional value in the whole package for products whose packaging encourages consumption of the whole package. Many packages list the fat and sugar for a much smaller standard serving. The labeling of food at restaurants was not required, but rather the restaurant industry was encouraged to initiate nation-wide efforts. Restaurants are exempted from the FDA's authority to regulate nutritional labeling of processed foods in the U.S. The percentage of

food eaten away from home is growing and this exemption from disclosing the content and nutritional value of food at restaurants and fast food outlets makes it difficult for consumers to make informed dietary decisions. The FDA would require legislative changes to regulate restaurants. Children are the target of aggressive advertising for foods that are high in sugar and fat and low in nutritional value. The Federal Communications Commission regulates radio and television broadcasting and restricting advertising of junk food targeted at children under a given age is within their purview (Hayne et al., 2004). The use of vending machines and their contents are controversial and heated debates are taking place throughout America.

Policy

Policy changes can include issues such as state mandates for the amount of physical education required in schools, whether or not vending machines are allowed in schools and what their content may be, and issues related to communicating with parents and children regarding overweight. Perhaps the most controversial area for policy change is marketing to children. Marketing is cited as a contributing factor in the change toward consumption of calorie-dense, nutrient-poor foods in large portion sizes (Harris et al., 2009). Restricting food marketing to children has been proposed (McGinnis et al., 2006) and advocates, the food industry, and various governmental bodies have considered plans for altering current marketing strategies.

In more than 50 other countries, policy decisions have been made to regulate television advertisements aimed at children. In Australia, for instance, advertisements targeted at children under 14 years of age are banned; the Netherlands bans the advertising of sweets to children under 12; Sweden bans the use of cartoon characters to

promote foods to children under 12. The U.S. regulates the maximum number of minutes per hour devoted to commercials: 12 minutes per hour on weekdays and 10.5 minutes per hour on weekends (Nestle, 2006). Many state and local policies and school policies are being reviewed concerning nutrition, including vending machines and nutrient standards, physical activity, and environment.

Perhaps an opposite approach from community intervention involving all aspects of society is treatment targeted to an individual child in the form of prescription drugs or surgery. This method, once used only on adults, is becoming less controversial for adolescents and may be considered for children in the future.

Pharmacological and Surgical Interventions

Risks of long-term pharmacotherapy must be weighed against the risks of continued weight gain. Orlistat and sibutramine are pharmacological agents for weight loss. A one-year orlistat controlled trial for adolescents found greater reductions in BMI than with placebo. There were no significant between-group differences related to lipids, glucose, or insulin (Daniels, Jacobson, McCrindle, Eckel, & Sanner, 2009). Controlled trials , 6-month and 1-year, of sibutramine use with overweight adolescents found significant weight loss compared with placebo (Daniels et al., 2009). The studies tested orlistat or sibutramine as adjunctive to behavior modification including diet, exercise, and lifestyle counseling. It is not known whether chronic pharmacological treatment will be needed beyond the one year trial.

There is a small evidence base for bariatric surgery in adolescents. Few studies provide more than three years of follow-up data. There are insufficient data to assess

long-term risks or recidivism in adolescent patients. Two federally funded studies are under way to compare baseline health and surgical risks and benefits in adolescents and older patients, and a randomized controlled trial of gastric banding is being conducted with adolescents in Australia (Daniels et al., 2009).

Regardless of the type of intervention, barriers are often encountered during implementation. A barrier is any perceived object, belief, or situation that hinders or prevents the person from participating in a program, engaging in the recommended activities, or adopting the proposed changes.

Barriers

Low levels of physical activity in children are associated with higher weight status and, regardless of their weight status, children who report barriers to being physically active are less likely to be physically active (Gray, Janicke, Ingerski, & Silverstein, 2008). Barriers commonly cited include self-consciousness, lack of support from parents, time constraints, and lack of resources. Zabinski and colleagues (Zabinski, Saelens, Stein, & Hayden-Wade, 2003) found that overweight children reported more barriers to physical activity than did children who were not overweight and that more of the barriers they reported were body-related, social, and resource barriers. Barriers to activity outside of school hours include safety concerns because of heavy traffic and high crime rate, lack of space, lack of equipment, and lack of transportation (Spear et al., 2007). Some children were unable to walk or bicycle to school because of heavy traffic, no bicycle lanes, and other obstacles such as unmarked intersections or no crossing guards. Identification of specific barriers for overweight children to increase physical

activity could inform interventions designed to reduce overweight by increasing physical activity.

Gray and associates examined the association between child physical activity and the psychosocial factors of parent distress, peer victimization, and child depression. Data from their study illustrate that peer victimization, parent distress, and child depressive symptoms are related. Peer victimization may create an environment that promotes self-consciousness when being physically active, worry about opportunities for team selection, and avoidance of situations that involve physical activity. This is consistent with Juvonen's findings (Juvonen, Graham, & Schuster, 2003) that demonstrate the negative effect of peer victimization on a child's quality of life, including psychosocial functioning.

Teasing and bullying of obese children

Obese children often experience psychosocial problems such as poor body image, low self-esteem, weight-related teasing and bullying (Eisenberg, Neumark-Sztainer, & M, 2003; Hesketh, Wake, & Waters, 2004). Overweight children who are teased about their weight or inability to keep up with other children in physical activities may withdraw from or avoid situations where they may be teased; this can lead to increased sedentary activities and further contribute to increased weight.

Neighborhood safety

Beyond access and location, parental perceptions of playground safety may influence children's physical activity. In studies in Boston (Cradock, Kawachi, & Colditz, 2005), and in Chicago (E. Powell, Ambardekar, & Shechan, 2005) investigators observed that although youths in high poverty neighborhoods lived closer to playgrounds,

the playgrounds were less safe than those in higher SES neighborhoods. Research may need to focus on access to safe play space rather than simply convenient play spaces within walking distance (Papas et al., 2007). Parents may require or children may prefer to stay indoors rather than risk playing outside in neighborhoods that are perceived to be unsafe. Children who are home alone may spend more time indoors and in sedentary activities until their parents come home.

Differences and Resource Disparities Across Race and Ethnicities

Cultural differences may affect the perception of overweight status. The prevalence of childhood overweight in the U.S. has increased more rapidly among black and Hispanic youths than among other groups, and health disparities have widened over the past decade (Strauss & Pollack, 2001). Groups with lower socioeconomic status and racial/ethnic minorities are at greater risk of morbidity and chronic diseases including cardiovascular disease, diabetes, and stroke.

At the community level, some groups may be at a disadvantage in their ability to acquire a healthy diet and maintain healthy physical activity behaviors. Fitness facilities, restaurants and food stores are not equally available in all neighborhoods. Significant disparities exist in some areas in the availability of some types of food stores, especially in African-American and Hispanic neighborhoods where fewer chain supermarkets were found compared with White and non-Hispanic neighborhoods (L. M. Powell, Slater, Mirtcheva, Bao, & Chaloupka, 2007). The availability of chain supermarkets in African-American neighborhoods is 52% of that in White neighborhoods. Hispanic neighborhoods have 32% as many chain supermarkets as found in non-Hispanic

neighborhoods. Low-income and minority neighborhoods have a higher prevalence of non-chain supermarkets and grocery stores.

Because of the complexity of the overweight prevention problem, the numerous contributing factors and barriers, and the limited success of various interventions, researchers are beginning to gauge the attitudes of those who are in a position to move proposed interventions forward or provide insight on needed accommodations to meet the needs of specific groups, cultures, and local communities. A few published studies on stakeholder attitudes are summarized below.

Attitudes of Stakeholders

Recent studies have attempted to discern the attitudes and beliefs of school personnel and parents regarding obesity and school-based intervention. Massey-Stokes and Meaney (2006) conducted focus groups with teachers, parents and students from a low-income, minority neighborhood in West Texas. All three groups identified healthy eating and physical activity as important factors for preventing overweight in children. Students and teachers also emphasized oral health as a behavioral factor in lifestyle related to health. The children's message was "Give us some apples and oranges and milk, and let us do some exercise and go outside longer." Family, neighborhood, school, poverty, and school food services were seen as roadblocks to healthy lifestyles.

Given the increase in prevalence of obesity and the key role of parents, teachers, and healthcare workers in school-based obesity prevention, formative research on the attitudes and beliefs of these key stakeholders is important but there are few reports in the literature. Sutherland, Gill, and Binns (2004) found differences in opinion related to

weight in a study conducted in one primary school on the central coast of New South Wales, Australia. A total of 170 parents of Kindergarten through grade 6 students, 31 school staff, and 40 health workers completed a 21 item survey designed to investigate attitudes regarding the school's role in preventing childhood obesity. Health professionals supported a leading role for the schools, but teachers as a group were the least supportive of school-based interventions. All three groups agreed that schools should encourage children to be more active and there was a strong perception that controlling the eating environment is primarily a parent responsibility. Opinion differences across groups were related to weight. Although teachers agreed that childhood obesity is a serious problem, they were reluctant for schools to play a major preventive role, perhaps due to an overloaded curriculum and competing priorities.

In a study of obesity-related beliefs and attitudes among junior and senior high school staff (Neumark-Sztainer, Story, & Harris, 1999), over half of the respondents indicated a belief that obesity is caused by individual behaviors such as overeating, poor eating, and lack of exercise. School staff holding stronger beliefs that obesity is under personal control were somewhat more likely to support school-based prevention programs. This is another aspect of the "role of schools in a democratic society" debate concerning what is "family" responsibility and what is "school" responsibility. Where do these responsibilities intersect and where do they diverge?

Yager and Jennifer (2005) examined the role of school and health personnel in preventing eating disorders and child obesity. Their findings were that many school and health professionals are in a position to make an impact in preventing or treating eating disorders and child obesity, but these are lost opportunities in many schools due to lack of

training and the perceived barrier of lack of knowledge that hinders the implementation of school-based prevention programs.

A few studies have looked at how best to communicate about child overweight. One study (Borra, Kelly, Shirreffs, Neville, & Geiger, 2003) found that children were concerned about physical appearance. They wanted to fit in, and not be seen as "different." In focus groups, interviews, and diaries, they associated good health more with nutrition than with physical activity. The children described themselves as active, but kept activity logs more suggestive of a sedentary lifestyle.

A Cambridge, Mass. Program in four elementary schools that sends home health report cards with student weight and fitness information has increased parental acknowledgement of their child's weight status and their involvement with treatment and prevention of overweight. Parents who received the reports were almost twice as likely to acknowledge that their child was overweight than were parents who did not receive the reports. They were more than twice as likely to take action to help control the weight of their overweight child through planned activities, medical help and planned dieting activities (Chomitz, Collins, Kim, Kramer, & McGowan, 2003).

School-based programs require parental consent, but active consent is significantly less likely to be given for childhood obesity and health behavior studies by parents of children who are overweight or at risk of overweight according to a sampling bias study by Mellor, Rapoport, and Maliniak (2008). Parents of children in lower grade levels are also less likely to participate. Low parental involvement is a widely acknowledged challenge among proponents of childhood obesity prevention interventions.

Parent behaviors, both direct and indirect, can have an adverse effect on the child's weight-related behaviors and concerns. A recent study (Haines, Neumark-Sztainer, Hannan, & Robinson-O'Brien, 2008) found that children's perception of their parent's behaviors were different from the behaviors self-reported by the parent. Disagreement was highest in relation to indirect parental behaviors such as parental comments about their own weight, appearance, and parental dieting. Slightly lower levels of disagreement were noted for direct parental behaviors such as parental encouragement for the child to lose weight and parental comments to the child about the child's weight. Hood, Moore, Sundarajan-Ramamurti, et al. (2000) found that a higher dietary restraint score for parents was associated with greater increases in body fatness in their children, compared to children whose parents had the lowest levels of restraint. This dietary restraint adversely affected the child's body fat only when coupled with high parental disinhibition. The combination of high levels of disinhibited eating and high dietary restraint in a parent may foster the development of excess body fat in their children. The authors suggested that a subconscious behavioral consequence may be the suppression of the child's satiety signal leading to the child's inability to self-regulate diet and a tendency to gain weight.

Few studies have explored what parents think about the school's role in preventing and treating child obesity (Murphy & Polivka, 2007). Murphy and colleagues explored parental perceptions of the causes of child obesity and the school's role in prevention and treatment. Of the 117 surveys returned by parents of at least one child 5-12 years old, the majority reported the main causes of child obesity are inactivity including television, video games and computer time, poor eating behavior, and lack of

parental control in what and how much children eat. Parents strongly agreed or agreed that BMI is an appropriate screening tool for schools to use and strongly supported eliminating junk food machines as well as offering special low-calorie meals. Only a third thought the school should recommend weight loss for obese children, but they wanted to know their child's BMI and would prefer a letter from the school nurse. Weight is perceived to be a sensitive subject and parents are often concerned about how weight-related information will be handled and communicated.

Among parents, there is a growing awareness of the outside influences on weight-related behaviors of their children. Measuring ethical evaluations of parents, Hudson, Hudson, and Peloza (2008) found that parents in the UK and Canada would like to see more media regulation on the prominent display of products such as alcohol, tobacco, and fast foods in children's films. Other environmental factors also influence weight-related behaviors of children. Among these are psychosocial issues, food insecurity, violence and high-crime districts (Massey-Stokes & Meaney, 2006) . Childhood obesity is more prevalent in ethnic minority populations. Kumanyika (Kumanyika, 2008) suggests that recognizing contributing environmental factors beyond the control of individuals is key to understanding the nature of needed solutions.

Healthcare professionals are another key stakeholder group whose attitudes and perceived barriers to prevention and treatment efforts need to be addressed by intervention programs. Pediatricians, registered dietitians (RDs) and pediatric nurse practitioners (PNPs) are well positioned to counsel and care for overweight children, yet little is known about the attitudes of these healthcare workers relative to childhood obesity. Story and colleagues (2002) surveyed 202 pediatricians, 444 registered dietitians,

and 293 pediatric nurse practitioners. The barriers most frequently cited were lack of involvement by parents, lack of motivation by patients, and lack of support services. The health practitioners felt least proficient in the areas of behavioral management, parenting techniques, and family conflicts. Family dynamics, behavioral management strategies, and approaches to prevention and treatment are suggested as increased training opportunities for healthcare workers.

Women, Infants, and Children (WIC) staff have also expressed a lack of comfort and confidence in addressing childhood overweight with WIC participants (Serrano, Gresock, Suttle, Keller, & McGarvey, 2006). Overall, the survey participants (n=106) felt most comfortable talking about fruits and vegetables and least comfortable talking about overweight or obesity with their participants. The scores were not significantly influenced by ethnicity, age, or length of experience with WIC. The authors concluded that to increase self-efficacy for WIC staff to address overweight-related issues, staff training, health promotion programs and culturally relevant educational materials are needed.

In one of the few studies focused on children's or adolescents' perceptions about obesity, Wilson (2007) surveyed 472 middle school students in grades 6-8 in a rural Midwestern community. When asked what goes through their mind when they see someone who is overweight, 63% wrote a negative comment, 32% wrote a neutral comment. When asked their opinion on keeping a healthy weight, 83% answered, "It's unhealthy to be overweight" and 17% answered, "It's okay to be overweight." Problems that overweight or obese students have, listed by 84% of students, included teasing, not being able to keep up in gym class, as well as difficulty making friends, health concerns,

and not looking good in clothes. Overweight was perceived as a problem by 89% of the middle school students in the survey. Wilson noted that to maintain a healthy weight, these students were willing to exercise more, include more fruits and vegetables in their diet, eat less junk food and drink more water. They were not willing to give up soda or spend less time playing video/computer games or watching television. Family support was viewed as important, but direct family participation was not highly valued. Students preferred being involved with a group of teenagers during school hours in a program that was fun and "not nerdy."

The beliefs and concerns of overweight urban, African-American children, their parents, and community leaders was explored by Burnet and colleagues using 13 focus groups with overweight children and parents and eight interviews with community leaders from the South Side of Chicago. Criteria for inclusion were an African-American family with a 9-13 year old child. Thirty-two families participated and nearly all children were above the 95th percentile of weight for age. Theme saturation was reached after six parent and six child focus groups. Barriers to healthy nutrition and exercise themes were that awareness is higher for acute health problems, time pressures, financial pressures, safety issues and kids' preference for sedentary activities. Parental challenges and concerns included themes of parents needing information, kids getting unhealthy foods outside of the home, parents finding it difficult to limit screen time, and parents worrying about psychosocial effects of overweight for kids. Concerns related to the meaning of overweight themes included that some people, kids and adults, are just "built differently," that children use size and appearance to determine overweight status and that overweight is a problem when there are functional limitations (Burnet et al., 2008). This study of

attitudes and beliefs offers new insights. Besides corroborating these previous findings, this study offered insights on tensions between children, parents and community leaders regarding lifestyle, overweight definition, and treatment preference. For instance, community leaders described families as living crisis-driven lives that precluded taking action on nutrition issues whereas parents voiced concern and readiness to change. Parents defined overweight in terms of functionality while children referred to appearance. Children preferred peer activities; parents preferred working with their children.

To address the emerging issue of needed information regarding environmental influences on children's health, a recent act of congress provides for the collection of much needed data that will provide future researchers, program implementers and healthcare workers with information to inform policy, design interventions, and enhance the health of the nation.

National Children's Study

The National Institute of Child Health and Human Development (NICHD) was authorized through the Children's Health Act of 2000 by the U.S. Congress ("Children's Health Act of 2000. Public Law 106-310," 2000) to conduct a longitudinal study of environmental influences on children's health and development. The resulting National Children's Study (NCS), a 21 year prospective study of 100,000 American children, is a life-course approach to identifying relationships among risk factors and environmental causes of pediatric disease including childhood overweight. Enrollment of women at preconception began in January, 2009. Enrolled families in a representative U.S. sample

will participate in at least 13 data collection encounters at specific intervals from preconception of the child to 20 years of age. The NCS mission is to provide the federal government with a guide to disease prevention, based on hypotheses driven, scientific, rigorous methods (Trasande et al., 2009). The body composition, anthropometric measures, biological specimens, diet and activity measures, along with socioeconomic and environmental data collected will facilitate hypotheses testing. Childhood obesity is addressed in six of 30 core hypotheses. The NCS presents major opportunities for future researchers, policy makers, and child healthcare providers, similar in scope to the breakthroughs afforded cardiovascular disease researchers by the Framington Heart Study.

Chapter Summary

In summary, although many childhood overweight contributing factors and issues are documented in the literature, there are few reports in the literature about the attitudes and beliefs of parents, teachers, principals, and students regarding preventing overweight in children, and there are fewer reports regarding the attitudes and beliefs of these stakeholders within specific ethnic, socioeconomic, and lifestyle groups. What is known? It is generally recognized by stakeholders that physical activity and healthy eating are important to preventing overweight in children. It is fairly well established that parents often don't know their child is overweight. Stakeholders generally acknowledge that role modeling healthy behaviors is important, and there is an awareness of media influences through targeted marketing to children. Little is known about what stakeholders consider to be a healthy lifestyle, overweight contributing factors or about how they perceive the role of the parent and the role of the school in preventing overweight. There are gaps in

what they perceive as barriers for children and adults and gaps in how they believe barriers could be overcome or which barriers are intractable. A specific goal of this study was to attend to this variety of issues within a specific context. This study addressed healthy lifestyle, contributing factors to overweight, the role of the parents and the school, and barriers for children and parents of a specific group of principals, parents, and teachers of 4th and 5th grade African American students in Title I schools in a Midwestern urban community.

CHAPTER III

METHODOLOGY

According to CDC data for 2001-2004 ("National Center for Health Statistics. Health, United States, 2007. Table 75. ," 2007), among children 6-11 years of age, the percentage of overweight is

- 17.5% (both sexes)
    - 18.7% (boys)
        - 16.9% (boys, white)
        - 17.2% (boys, African American)
        - 25.6% (boys, Mexican)
    - 16.3% (girls)
        - 15.6% (girls, white)
        - 24.8% (girls, African American)
        - 16.8% (girls, Mexican)
- 20.0% (below 100% poverty level)
- 18.4% (100% - Less than 200% of poverty level)
- 15.4% (200% or more of poverty level)

As seen in these data, the prevalence of childhood overweight and obesity is highest among racial and ethnic minority populations and among low-income populations.

This research was reviewed and approved (see Appendix A, page 186) by the Institutional Review Board of Oklahoma State University. To explore attitudes and beliefs relevant to eliminating health disparities for at risk, vulnerable children, I interviewed a purposive sample of single parents and teachers of African American fourth and fifth grade students in Title I schools in Tulsa OK and surveyed all elementary school principals in Tulsa. This combination of qualitative sample and quantitative census included key stakeholders who can influence overweight prevention efforts targeted to elementary school students from an ethnic minority, low income group at highest risk for overweight and co-morbid conditions.

Quantitative Measures: Principal Survey

The survey format was selected for this target audience in order to facilitate a census of all fifty-nine elementary school principals in Tulsa, OK. The principal of an elementary school is in a position of influence on the receptivity of stakeholders to support health programs in the school. To gain an understanding of the receptivity to school-based programs within school administrations, I surveyed all fifty-nine elementary school principals in the Tulsa Public Schools system on principals' attitudes and beliefs about childhood overweight and school-based nutrition and physical activity programs as well as readiness for change to prevent overweight in students in their schools, see Appendix B, page 191.

Objective

The goal of the quantitative aspect of the research was to explore the attitudes and beliefs of elementary school principals in the Tulsa Public Schools regarding contributing factors to child overweight, the role of parents and schools in preventing child

overweight, and barriers to participation in school-based overweight prevention programs.

Research Questions

1. What are the attitudes of elementary school principals in the Tulsa Public Schools regarding factors contributing to child overweight?
2. What role do elementary school principals in the Tulsa Public Schools believe schools should play in preventing child overweight?
3. What barriers do elementary school principals in the Tulsa Public Schools perceive regarding participation in school-based overweight prevention programs?

The attitudes of principals about the school's role and the family's role play a significant part in shaping their response to, their participation in, their support of, and ultimately the success of all school-based obesity-prevention efforts. To ensure that an implemented program is sustainable, we must explore the environmental context including the attitudes and beliefs of key stakeholders. Formative research is needed to inform policies and shape programs that could increase physical activity and change food choices over the long term among children at highest risk for obesity by ensuring that interventions are sustainable.

A survey (Appendix B, page 191) of elementary school principals in the Tulsa Public Schools was used to identify principals' attitudes and beliefs about childhood overweight and school-based nutrition and physical activity programs as well as readiness for change to prevent overweight in students in their schools.

Target population

The target population was elementary school principals in the Tulsa Public Schools.

Survey population

The survey population was elementary school principals in the Tulsa Public Schools.

Frame

The frame was the set of all elementary school principals listed on the Directory of Tulsa Public (Elementary) Schools 2008-2009 on the official district website for the Tulsa Public Schools: www.tulsaschools.org/district/dir.pdf. For each of the five Tulsa areas, the directory listed the superintendent's name, school code, school name, abbreviation, principal, school phone, school address, and school zip code.

Frame problems

Problem:

Although the Tulsa Public Schools is the largest school district in Oklahoma, the city of Tulsa contains public elementary schools that are not part of the Tulsa Public School system. School districts within the Tulsa metropolitan area include Union schools, Jenks schools, Broken Arrow schools, and Owasso schools that are not part of the Tulsa Public Schools. This could lead to confusion or misperceptions about which schools are included in the survey.

Correction:

The survey population was clarified to be "elementary school principals in the Tulsa Public Schools" rather than the original specification of "elementary school principals in Tulsa."

Sample size choice

This was a census. There were 59 elementary school principals in the Tulsa Public Schools in 2009. All were included in the survey.

Choice of Method

The survey format was selected for this target audience in order to facilitate a census of all elementary school principals in the Tulsa Public Schools. It was not logistically feasible to interview fifty-nine principals or to schedule focus groups with that number of participants who already have fully committed calendars. Because the principal of an elementary school is in a position of authority to allow a health program in the school and to influence the receptivity of parents and teachers to support a health program in the school, it was important to gather input from as many principals as possible. To gain an understanding of the receptivity to school-based programs within school administrations, all fifty-nine elementary school principals in the Tulsa Public Schools were surveyed.

An incentive of $20 was offered for a returned survey. The incentives were issued in the form of a check mailed to the participant, along with a thank-you letter, when the completed survey was received. The incentives were budgeted by the OSU Department of Nutritional Sciences and the checks were written by a representative of the HES Department of Research and Graduate Studies.

This was a mailed survey preceded by an announcement notice (Appendix C, page 194) mailed one week prior to the actual survey. The survey packet consisted of a cover letter (Appendix D, page 197), an introductory letter with elements of consent (Appendix E, page 199), the survey instrument (Appendix B, 191) a 3x5 inch Address,

and a self-addressed, stamped envelope for the return of the survey and address card, all enclosed in a stamped envelope with typed mailing address and return address. In order to preserve confidentiality, participants were instructed not to put their name on the survey, but rather to return the Address Card with the survey. The Address Card was needed to determine who to mail the incentive to, and was then separated from the survey.

To address non-response error, school principals were consulted on the timing of the survey during a pre-test of the instrument, three reminders (Appendices F, G, and H) in the form of tri-fold self-seal mailers were mailed to non-respondents two, three, and four weeks after the survey was mailed, and a phone call to non-respondents was placed after six weeks. Non-responding principals were mailed a second copy of the survey upon request. A thank-you letter (Appendix I, page 211) with an enclosed check for $20 was sent to respondents upon receipt of a completed survey. Corrections for non-response included the timing of the survey, the announcement letter to arouse respondent's interest, the three mailed reminders, and the personal phone call.

Questionnaire Design

The questionnaire (Appendix B, page 191) was designed and developed as part of a Sample Surveys class and the questions were based on initial interviews with parents and teachers conducted as part of two Qualitative Measures classes at Oklahoma State University. The tri-fold instrument, designed to be completed within a ten to fifteen minute period, is a one page (front and back) document with as much white space as practical in order to avoid the perception that it would take too long to answer. Fifty-five statements were organized into the following main headings:

- A healthy lifestyle for kids
- What can lead to overweight in kids?
- What should parents do?
- What should schools do?
- What are barriers for some children?
- What are barriers for some parents?
- As an elementary school principal, what can I do?

The end points of a five point Likert scale were labeled “Strongly Agree” and “Strongly Disagree.” Respondents were asked to indicate their level of agreement or disagreement with each of the statements by filling in one of the circles on the continuum from strongly agree to strongly disagree.

Respondents were asked to rank the following items in order of importance as a factor contributing to childhood overweight, where “1” has the greatest effect of the six items and “6” has the least effect of the six items. They were instructed that this is a rank order and to use each number once and only once.

- Socio-economic status
- Nutrition
- Genetics
- Knowledge/Attitude/Beliefs
- Physical Activity
- Parental Support

To assess readiness for change, respondents were asked to circle one answer to the following statement. When it comes to preventing overweight in students in my school:

a. I am not ready to think about it yet.

b. I am beginning to think about the issue.

c. I am making an action plan for the coming year.

d. I already have a plan in place and am taking action.

e. I am measuring results and seeing ongoing progress.

f. I do not think this issue is an important part of my role.

Demographic information regarding the enrollment, percentage of free and reduced lunch, ethnic composition of the school, ethnicity and gender of the principal, and the principal's estimate of overweight and at risk of overweight among children in the school was collected. The principals were also asked an open-ended question: "What other issues or concerns do you have related to childhood overweight?"

Pretest validation

Face validity of the questionnaire was established by an expert panel consisting of a five member OSU dissertation committee and the manager of the Tulsa Health Department responsible for school nutrition programs. It was pretested by a group of five middle school principals in the Tulsa Public Schools. Their pretest feedback included the time it took them to complete the survey, comments about the wording of questions, font size, definition of terms, and amount of space for answering the open-ended question. Survey revisions, based on pretest input, included a few reworded questions, larger, bold fonts to separate sections of the survey, and a larger space for answering the open-ended

question. The average time to complete the survey at pretest was eight minutes. The estimate of the time to complete the survey was ten to fifteen minutes. The pretest principals suggested the optimal time for the survey process would be to begin in late September after the schools were in session and the principals were settled in to the semester routine, and to end before the Thanksgiving break. The survey was timed to fit this optimal window of opportunity.

Cover letter/introduction

The cover letter (Appendix D, page 197) contained an introduction and invitation to participate. It outlined the requirements for participation, an assurance of confidentiality, and the incentive payment for returning a completed survey. The introductory letter with elements of consent (Appendix E, page 199) provided more detail on the project, procedures, benefits, risks, and contacts for further information. The OSU Institutional Review Board did not require a signed consent form for the survey. The approved IRB form is included in Appendix A, page 186.

Qualitative Measures: Parent and Teacher Interviews

Interviews with single parents and teachers of fourth or fifth grade African American students may contribute to our ability to identify any barriers to full implementation and ongoing support of school-based interventions designed to reduce the prevalence of childhood overweight in Tulsa, Oklahoma.

Objective

The goal of the qualitative aspect of the research was to explore the attitudes and beliefs of parents and teachers of 4th and 5th grade African American students in Title I schools regarding contributing factors to child overweight, the role of parents and schools in preventing child overweight, and barriers to participation in school-based overweight prevention programs. And, not only to explore their attitudes and beliefs, but to allow participant's views to be heard in first person narrative.

Research questions

1. What are the attitudes of single parents and teachers of 4th and 5th grade African American students in Title I schools regarding factors contributing to child overweight?
2. What role do single parents and teachers of 4th and 5th grade African American students in Title I schools believe schools should play in preventing child overweight?
3. What barriers do single parents and teachers of 4th and 5th grade African American students in Title I schools perceive regarding participation in school-based overweight prevention programs?

Target Population

Single parents of 4th and 5th grade African American students in Title I schools represent a minority group in both ethnicity and socio-economic status that are at higher risk of overweight.

Sample

Purposive sampling.

Purpose sampling is conducive to an emergent sampling design. Serial selection of sample units to extend, test, or fill in gaps in data already gathered (Lincoln & Guba,

1985), allows adjustment or focusing of the sample. With purposive sampling, selection to the point of redundancy can be accomplished to maximize information with a relatively small sample size. In this study, a principal in a Title I elementary school in the Tulsa Public Schools identified a teacher and a single parent to begin the interview process. The selection was based on the voluntary participation of a parent and a teacher of a 4th or 5th grade student. The potential interviewees were interviewed briefly by phone to ensure that they met the stated inclusion criteria. Additional interviewees were solicited by the same process from additional Title I schools in various parts of the metropolitan area. Although weight status of the child was not an initial inclusion criteria, the sample included parents of healthy weight students and parents of overweight students. This could have been handled as an emerging design change if needed to ensure that both perspectives are included in the interviews; however, that was not necessary since the first few interviews included parents of both overweight and normal BMI for age and gender children.

This purposive sample included six single parents and six teachers. Principal consent was obtained for the interviews and each principal nominated a single parent and a 4th or 5th grade teacher from their school. We obtained informed consent from each interviewee prior to the conduct of data collection.

Choice of Method

An in-depth investigation of the overweight phenomenon is important and can be made possible by individual interviews, particularly on topics perceived to be sensitive. Patton (2002) argued that qualitative measures unlock possibilities in understanding a phenomenon in depth. The personal interview was chosen because it has potential to

elicit rich data on a given phenomenon and the hour length provided time for each interview to reflect on the questions and provide in depth, personal responses. In addition, the personal interview facilitated open expression of attitudes and beliefs with less inhibition than might be encountered in an adult group setting, important because some consider overweight a sensitive topic, a topic that elicits confusion, guilt and/or shame. The personal interview, conducted in the home or at the school, also allowed for scheduling at the convenience of each parent or teacher.

Semi-structured interview questions

1. How would you describe a healthy lifestyle for children?
2. What does "overweight" in children mean?
3. What are some of the things you think could lead to overweight in children?
4. What should parents do to prevent overweight in children?
5. What should schools do to prevent overweight in children?
6. What barriers make it hard for some children to take part in school health programs?
7. What makes it hard for some parents to actively support school health programs?
8. What other issues related to overweight in children do you think are important?

I did not change any questions along the way, but if the interviewee hesitated or seemed confused by a question, I followed with a prompt or clarifying question. For instance, if someone was not familiar with the term "barriers," I rephrased question 6 to

“Are there any reasons that a child might not take part in a school health program?” In response to question 8, safety issues were frequently mentioned, so if it did not come up as an other issue, I asked “Is safety an issue?”

Interviewees received a $20 gas card, courtesy of the Tulsa Health Department, as a thank you for their time and valued opinions.

Data analysis of the qualitative measures was initially inductive and then connected to the literature. The aim was to understand individual perspectives rather than to prove a specific theory. The intent was to add depth and texture to a complex issue rather than to generalize to a specific population. I collected qualitative data from interviews. To help ensure rigor, credibility, and “trustworthiness” of the findings (Morse, Barrett, Mayan, Olson, & Spiers, 2002) according to traditional social science criteria (Patton, 2002), we used the constant comparison methodology to triangulate the sources and included member checks. Saturation, the point at which no new themes were observed in the data, was reached within the fixed number of interviews.

Trustworthiness

Evaluating the rigor of qualitative research required a different perspective from the quantitative values of internal validity, external validity, reliability, and objectivity. Lincoln and Guba (1985) proposed new terminology and concepts to apply to qualitative research. The rigor of a quantitative research study would be paralleled by the “trustworthiness” of a qualitative research study. Trustworthiness within a qualitative study is determined by credibility, transferability, dependability, and comfirmability. These qualitative attributes, respectively, roughly correspond to, or are somewhat parallel to, the quantitative attributes of internal validity, external validity, reliability, and

objectivity (Lincoln & Guba, 1985). I determined trustworthiness within the qualitative component of this study by addressing each of these criteria and their component parts as discussed below.

Credibility

Credibility contributed to trustworthiness in the research process by establishing the truth value which corresponds to internal validity. Producing credible findings, probing biases, exploring meanings and clarifying interpretations were part of the quest for credibility. Techniques employed were prolonged engagement, persistent observations, triangulation, referential adequacy, peer debriefing, and member checks.

Prolonged engagement.

Prolonged engagement normally involves the researcher spending extensive time with the participant in order to increase the level of rapport that would encourage open interactions with the researcher (Li, 2004; Lincoln & Guba, 1985). In terms of the anthropological fieldwork from which the idea of prolonged engagement arises, interview time with participants was one hour and would not qualify as prolonged engagement. In a one hour interview, I had one-on-one, face-to-face time with each interviewee in a quiet setting. That is not enough time to recognize and deal with distortions and build trust and to observe a phenomenon like factors involved in overweight as they are lived on a daily basis. This was an interview study rather than an observation/ethnographic work. As a Caucasian married mother of grown children, I am not an accepted member of the group of single mothers or teachers of 4th or 5th grade African American students attending Title I schools, so the initial level of trust might be considered tenuous at best. However, my position as a mother and older woman was respected in this community and although the

opportunities for building rapport in this setting and situation were limited, a skillful interviewer who is respected can elicit information in that setting and timeframe that might not be shared in a focus group in which active participation time for each person is considerably less than one hour, the focus on one individual is not present, and the counseling skills of attending behaviors, minimal encouragers, reflecting feelings, and reflecting meanings are not as focused on one individual (Martin, 2000). One hour was intrusive enough on the busy schedules of the parents and teachers; longer would not have helped that much more.

I had previously taught nutrition in a Title I elementary school as part of a multi-component school-based overweight prevention program, but I wanted to have their perspectives on the topic, not my own based on a period of observation. Because I was studying the stakeholders' investments and opinions, interviews were an appropriate data source. Methods and methodology arise from purpose. I used incubation and immersion in data analysis rather than prolonged engagement. In addition, the perceived sensitivity of the topic might on one hand justify an anonymous survey, but on the other might seem a bit cold, distancing, and inhumane. The social and cultural context for issues of overweight are factors in methods choices.

Persistent observations.

Persistent observation involved looking for patterns and seeking more information to either confirm or contradict the understanding that was emerging from the data (Lincoln & Guba, 1985). It provided depth and added to credibility of the findings. In my research, persistent observation included reading and re-reading the data and investing time in collecting and data immersion to ensure an in-depth understanding of

the culture and views of the interviewees. As understandings emerged, I sought confirming or contradicting evidence in the data.

Triangulation.

The specific elements of triangulation I used were multiple methods of data collection and multiple contextual situations. I collected data reflecting the perspectives of people from different points of view (parents, teachers, principals). Parents and teachers were interviewed. Principals were surveyed. Interviews took place in homes, schools, or where the interviewee felt most comfortable. Thus, the process employed multiple methods to collect data in various settings and provided data from multiple points of view.

Peer debriefing.

The peer debriefing process was engaging in a dialog with colleagues who were not involved with the project, but who did have experience with the methods, the population, or the topic under study (Li, 2004; Lincoln & Guba, 1985). I consulted with colleagues and mentors outside of my research project who had experience with the methods, the topic, or the population. Dr. Lucy Bailey and Dr. Ed Harris, in the Social Foundations department at Oklahoma State University have expertise in Qualitative Methodology and Research and were consulted throughout the project. Individual members of my PhD committee have expertise in qualitative methods, obesity prevention, or my target population and were consulted throughout the project. My peers and mentors advised me and provided feedback on any inconsistencies in my methods or themes that I may have overlooked. Their fresh perspectives challenged my assumptions,

contributed to an emergent design, and strengthened or altered my conclusions (Shenton, 2004).

Member checks.

Member check, or respondent validation, allowed participants to confirm or deny the accuracy of the work after reviewing the findings from analysis of their data (Lincoln & Guba, 1985). This is a particularly important technique in studies intended to honor participant voice to ensure the voices of participants are represented as accurately as possible. It involved going back to the interviewee to see if the analysis and interpretation of their data makes sense to them and reflects what they meant. I summarized the transcripts of one parent and one teacher into brief narratives and invited the respondents to clarify or expand on anything in the narrative that they saw as appearing confusing or incomplete. The respondents reviewed the narrative of their own transcript and provided feedback on whether I had accurately captured their main ideas that they conveyed in their interview. This strategy helped establish trustworthiness by giving authority to the participant and reducing the threat of researcher bias (Padgett, 2004). An opposing, post-positivist, view was posited by Sparkes (1998) who suggested that if we acknowledge multiple realities, the participant's member check should not be considered as validation, but rather as an elaboration or additional data in the emerging findings, an opportunity to consider the phenomenon in even greater depth.

Transferability

Transferability contributed to rigor by demonstrating the applicability of the research; it corresponds to reliability. It refers to the extent to which a reader is able to generalize to his or her own context. Transferability includes thick description and

purposive sampling. To enable the reader to make that assessment, the research must provide information about herself or himself, the context of the research and its processes, participants, and the relationship of researcher to participant. The findings of this qualitative project are specific to a very small number of individuals and a particular environment. Given a very small sample size and voluminous descriptive data, it is not possible to demonstrate that the findings and conclusions are applicable to other situations or populations. They are nevertheless suggestive and offer thus far undocumented perspectives. What has been attempted is to ensure that the fieldwork is provided with contextual information sufficient to enable the reader to determine their confidence level in transferring to other situations (Shenton, 2004).

Thick description.

The interviews were transcribed *ver batim* and with annotations of non-verbal communication and utterances. This was the raw data for qualitative analysis. Denzin (1989, p.83), cited by Patton (Patton, 2002), indicates that thick, rich description goes beyond fact to present detail, context, and emotion to allow thick interpretation. Thick description allows the reader to enter into the situation and provides for analysis and interpretation (Patton, 2002). I provided thick descriptions of the setting, the surroundings, and the interactions to take the reader into the setting described. Rich, concrete descriptions were intended to help the reader understand and evoke meanings and significance from the data.

Dependability

Dependability contributed to trustworthiness by demonstrating consistency which corresponds to reliability. A demonstration of credibility also helped to ensure dependability (Lincoln & Guba, 1985). Dependability implies that there is an inquiry audit and paper trail that allows others to come to the same conclusion given the same data. The process for this study is documented in Field Notes. Repetition of study is not the primary goal, but rather ensuring accuracy.

Inquiry audit, paper trail, can others come to the same conclusion given the same data?

Any emergent design changes were carefully tracked. An audit trail detailed research activities and document data collection and analysis. The processes used in the study are reported in detail so that future researchers may assess whether proper research methods have been followed and to enable others to repeat the work. The research design and data gathering methods were documented. A "paper trail" was provided by storing and analyzing data with NVIVO software, and a field note journal was kept. This self-reflective journal documented the steps of my process, contains a record of my ideas, responses and biases, and is a site of initial analysis. The field notes may be examined by peers, advisor or committee members. A reflective appraisal of the project is available to future researchers. My advisor Dr Kennedy performed an inquiry audit by examining my documentation of interview notes, field notes, daily journal entries, the data, findings, and interpretations (Lincoln & Guba, 1985). She will be able to verify the steps and process I went through in arriving at findings and can attest that findings are supported by data. Given the contextual focus of this qualitative research, others may not be able to repeat

the work with different participants and gain the same results, but they should be able to look at the given data and see how I arrived at my conclusions.

Confirmability

Confirmability contributes to trustworthiness by demonstrating neutrality which corresponds to objectivity. It involves raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, material relating to intentions and dispositions, and instrument development information. Confirmability involves the integrity of findings being in the data. The reader needs to be able to confirm the adequacy of the findings from the data and analytic process (Morrow, 2005). This idea is contested by Sparkes (Sparkes, 1998) who posits that since the researcher is the instrument of the investigation, a different researcher may not confirm the findings. Lincoln and Guba (1985) recommend an audit trail consisting of the six classes of data suggested by Halpern in his 1983 PhD dissertation (Halpern, 1983): raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, material relating to intentions and dispositions, and instrument development information. This would facilitate the auditor's ability to determine if interpretations and conclusions are supported by the research. I provided the auditor with data according to Halpern's categories as shown below.

Raw data.

Raw data for my research included interview audio tapes, written field notes, observational notes, and principal survey results.

Data reduction and analysis products.

Data reduction and analysis products were my unitized data. They consisted of write-ups of my field notes, summary notes, 3x5 index cards, and any working hypotheses, hunches or concepts.

Data reconstruction and synthesis products.

Data reconstruction and synthesis products included categories, themes, linkages, relationships between categories or between categories and theory, as well as findings, conclusions, and a final report.

Process notes.

Process notes documented what I did, why, and what effect it had. Notes included methodological notes, notes on trustworthiness, and notes to the audit trail.

Material relating to intentions and dispositions.

The material relating to my intentions and dispositions provided the auditor with potential sources of my bias and whether I was disciplined about recognizing and managing my investments in the project and my role as a qualitative researcher in which I am the primary instrument of data gathering and analysis (Patton, 2002). A written introspection with my reactions to events, decisions, and the research as it progressed was available to the auditor, as were my proposal, and notes about my ideas prior to conducting the interviews, and the influence of the literature on my thoughts about the research. My methodological preferences are another potential source of bias.

Instrument development information.

I provided the auditor with a list of my interview questions, and drafts, pilot test, and final copies of my elementary school principal survey. This showed potential relationships between my instrument and my categories.

Coding

The coding involved extracting units of data from the interviews onto color-coded index cards, sorting into categories, and classifying into emerging themes to form conclusions. Excerpts (sentences, phrases, or paragraphs) from the analysis of interview transcripts were transferred to 3x5 index cards. Different colors of stickers were used to indicate the source of the data (interview, observation, or artifact). Each card represented an idea expressed in an interview. Each card was labeled with the specific source and location of data collection. The cards were sorted into like groups or categories, and then were sorted into emerging themes. In addition, I used NVIVO software (NVivo 8, QSR International, Pty Ltd, 651 Doncaster Road, Doncaster, Victoria 3108, Australia) to code and query the data and record quantitatively responses of a particular type or emerging theme. I approached the data both qualitatively and quantitatively, then revisited the data searching for indigenous contrasts and wrote memos and vignettes.

Results of the Principal survey were analyzed using SPSS, Statistical Package for the Social Sciences, Release 13.0 (SPSS, Inc., 233 S. Wacker Drive, Chicago, Illinois 60606). I used descriptive statistics, including frequencies, conducted independent t-tests to compare responses by gender of the principal, and conducted correlation of responses by percentage of free and reduced lunch and by percentage of African American students in each school.

Chapter Summary

In summary, this research employed multiple methods, including combinations of quantitative and qualitative data. The inquiry questions were illuminated by qualitative data from interviews and quantitative data from a survey. A census of elementary school

principals, persons in administrative authority, were surveyed to explore their attitudes and beliefs regarding causative factors, the role of parents and schools, and barriers to participation in school-based programs. Single parents and teachers of an at risk population of minority children, 4th and 5th grade African American students in Title I schools, were interviewed to explore their attitudes and beliefs regarding contributing factors, the role of parents and schools, and barriers to participation in school-based programs. The data from the survey and interviews may help ensure that implemented programs are supported by stakeholders and are sustainable over time.

CHAPTER IV

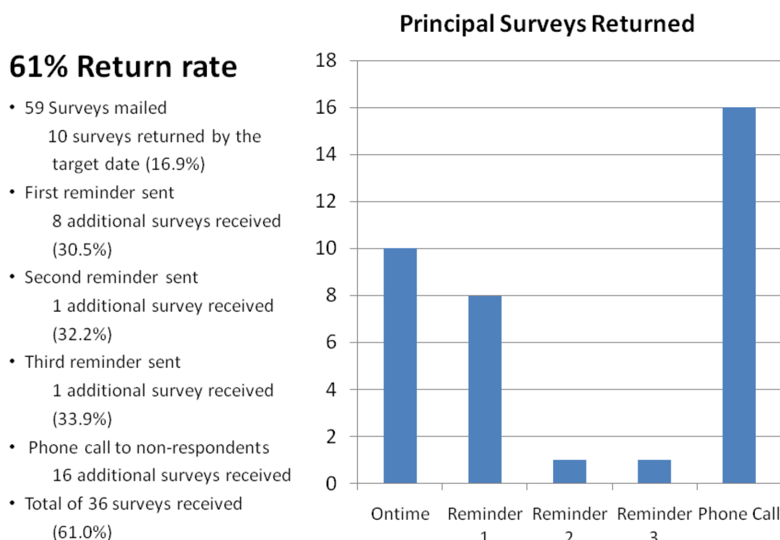
FINDINGS

The survey provided information that will be helpful to the Tulsa Health Department as they seek to continually improve the school-based health program that has recently been introduced into 18 Title 1 schools in Tulsa. Findings from the principal survey identify which overweight-related issues the principals feel very strongly about and which ones they are neutral to or strongly disagree with. The information from the survey was also used to triangulate with qualitative data from interviews of parents and teachers in the Tulsa Public Schools. The interview questions corresponded to the subject areas of the principal survey. The qualitative findings give voice to the parents and teachers of minority students in low-income neighborhoods who, according to national health surveillance data, are at greater risk for overweight. Their opinions and beliefs about preventing overweight in children are at present under-represented in the literature.

Quantitative Measures: Principal Survey

The final response rate of 61% compares favorably with similar projects. Thirty-six responses qualify as a large sample for analysis. The first reminder produced

Figure 1: Responses to Principal Survey



nearly as many responses as the original mailing, but the second and third reminders were ineffective. The most successful appeal to non-respondents was a personal phone call.

Response rate analysis

Thirty-six principals completed and returned the survey, see Figure 1. Ten surveys were received by the initial target date. The first reminder to non-respondents resulted in an additional eight surveys. Two additional reminders each resulted in one more completed survey. A personal phone call to the remaining non-respondents resulted in 16 additional completed surveys, nearly doubling the number of responses, see Table 1.

Table 1. Responses to mailed survey on Attitudes and Beliefs about Childhood Overweight

Contact	Surveys Returned	Percent Response	Cumulative Response
First Mailing	10	16.9	16.9
Mailed Reminder 1	8	13.6	30.5
Mailed Reminder 2	1	1.7	32.2
Mailed Reminder 3	1	1.7	33.9
Phone Call	16	27.1	61.0
Non-response	23	39.0	
Total	**59**	**100.0**	

Demographics

As illustrated in Table 2, the ethnic diversity and percentage of free and reduced lunch varied widely across the respondent principals' schools.

- Enrollment in the schools ranged from 210 to 723.
- The percentage of free and reduced lunch in the schools ranged from 20% to 100%.
- The percentage of African American students ranged from 3% to 99%.
- The percentage of Hispanic students ranged from 0.5% to 57%.
- The percentage of White students ranged from 0.5% to 90%.
- The percentage of Native American students ranged from 0% to 30%.
- The percentage of Asian students ranged from 0% to 4%.

Table 2. Enrollment in the schools by free/reduced lunch and by ethnicity.

	Valid	Mean	25%-ile	50%-ile	75%-ile
Enrollment in my school	36	393.47	303.25	393.00	446.75
Percentage of free/ reduced lunch	36	74.14	56.30	80.00	93.50
Percentage African American	36	34.14	13.25	23.30	37.75
Percentage Hispanic	35	17.25	5.00	10.400	28.300
Percentage White	35	38.87	19.00	40.00	56.00
Percentage Native American	34	10.53	7.18	8.20	15.25
Percentage Asian	33	1.18	.000	1.00	2.00

- The ethnicity of principals is 8% African American, 83% White, 6% Native American.

- The gender of principals is 28% male, 72% female.
- Among principals, "My estimate of at risk of overweight among my students" ranges from 6% to 75%, where at risk of overweight is BMI >85th percentile for age and gender.
- Among principals, "My estimate of overweight among my students" ranges from 1% to 80%, where overweight is BMI >95th percentile for age and gender.

As shown in Table 3, principals' estimates of at risk for overweight and overweight among students in their schools were, on average, 27% and 20%, respectively. Higher estimates of at risk of overweight were significantly correlated with percentage of free/reduced lunch (0.379, $p<0.05$) and had a significant negative correlation with percentage white students (-0.380, $p<0.05$). Principals' estimates of overweight among students in their school were significantly correlated (0.696, $p<0.000$) with their estimates of at risk of overweight among students in their school. Seven of 36 principals declined to estimate at risk of overweight and nine declined to estimate overweight among students in their school. This may indicate lack of familiarity with the definitions of at risk for overweight and overweight, or lack of confidence in their ability to estimate overweight and at risk of overweight.

Table 3. Principal estimates of overweight percentage in their school.

	Valid	Mean	25%-ile	50%-ile	75%-ile
My estimate of at risk of overweight	29	26.59	10.00	20.00	37.50
My estimate of overweight	27	20.37	8.00	15.00	20.00

Cost analysis

This project was not externally funded. The cost analysis is summarized in Appendix K, page 242.

Survey Results

The survey asked 56 questions on a 5 point Likert scale. The mean, median, mode, standard deviation, variance, and range for each question are recorded in Appendix J, page 213, along with the frequency and percent for each response to each question. Also included is a histogram with normal curve for each question on the survey.

An independent t-test was performed to compare means between answers of male and female principals. The independent t-test of mean responses revealed no significant differences based on gender of the principal. Since the survey included principals of all elementary schools and the qualitative interviews were limited to parents and teachers of African American students in Title 1 schools, a correlation analysis was performed on all survey questions with percentage of free/reduced lunch, percentage of African American students, and status as a Title 1 school. This was done to aid in the interpretation of triangulated data from the quantitative and qualitative sources. The following significant correlations were found in the survey data.

- Under the heading “What can lead to overweight in kids?”, socio-economic status was significantly correlated with percentage of free/reduced lunch ($r=0.462$, $n=36$, $p<0.005$) and with Title 1 school ($r=0.335$, $n=36$. $p<0.046$).
- Under the heading “What should schools do?”, Make school gymnasium available as a fitness center was positively correlated with the percentage of African

American students ($r=0.346$, $n=36$. $p<0.039$) and with Title 1 school ($r=0.354$, $n=36$. $p<0.034$).

- Under the question that asked principals to rank order six factors that contribute to overweight, socio-economic status was significantly correlated with percentage of free/reduced lunch ($r=-0.422$, $n=35$, $p<0.012$). The ranking was from 1 to 6 with 1 being the most important, so the negative correlation on this question indicates that a higher percentage of free/reduced lunch would correspond with a lower number in the ranking which would be a more important factor. Also in the rank order question, knowledge/attitudes/beliefs were significantly correlated with Title 1 schools ($r=0.355$, $n=35$, $p<0.036$).
- Under the heading, "Readiness for Change", my school participates in a school health program was positively correlated with percentage of free/reduced lunch ($r=0.371$, $n=36$, $p<0.026$).

In regard to what constitutes a healthy lifestyle for students, what leads to overweight and what parents can do, a very high percentage of principals expressed strong feelings about nutrition, physical activity, fast food, and time spent watching TV or in other forms of "screen time."

- 92% strongly agreed that a healthy lifestyle for kids includes nutrition.
- 97% strongly agreed that a healthy lifestyle for kids includes physical activity.
- 92% strongly agreed that fast food can lead to overweight in kids.
- 97% strongly agreed that parents should set limits on "screen time" (TV, computer, games) for kids.

Strong feelings were expressed on both sides of several issues related to what schools can do to address obesity, including fast food in the cafeterias, transportation as a barrier for children and parents, whether after-school programs make the day too long for children, and the importance of immediate results from health programs.

- 14% strongly agreed that schools should offer fast food choices “a la carte”; 25% strongly disagreed.
- 28% strongly agreed that lack of transportation is a major factor in the ability of students to participate in school-based nutrition programs; 19% strongly disagreed.
- 8% strongly agreed that after-school programs make the day too long for most children; 31% strongly disagreed.
- 17% strongly agreed that lack of immediate results discourages children from consistently participating in health programs; 6% strongly disagreed.
- 25% strongly agreed that lack of transportation is a major factor in the ability of parents to participate in school-based health programs; 11% strongly disagreed.

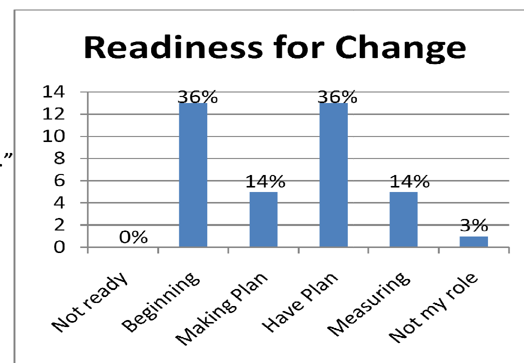
Readiness for Change

When asked to identify their readiness for change, principals marked the following responses (Figure 2):

Figure 2: Principals’ readiness for change to prevent overweight in their school

Readiness for change: When it comes to preventing overweight in students in my school:

Principals	Stage of Change
0	“I am not ready to think about it yet.”
13	“I am beginning to think about the issue.
5	“I am making an action plan for the coming year.”
13	“I already have a plan in place and am taking action.”
5	“I am measuring results and seeing ongoing progress.”
1	“I do not think this issue is an important part of my role.”



Other Issues

Principals were asked the open-ended question, "What other issues/concerns do you have related to childhood overweight? Twelve principals (33%) took this opportunity to offer comments about-self esteem, attitude, education, social/emotional stress, relationships with peers, related health issues, access to grocery stores, language barriers, funding, cafeteria food, genetics, poverty, length of school day and price of fruits and vegetables. Each principal who commented brought up unique concerns. Their comments are included in Appendix J, page 213.

Qualitative Measures: Parent and Teacher Interviews

Prominent themes that emerged from the qualitative data were summarized and key points related to healthy lifestyle, contributing factors, roles, and barriers were identified. Perspectives of the stakeholder groups were compared and contrasted. We observed theme saturation after six parent and six teacher interviews.

Participants and Context

I meet with Parent #1 in her small frame home on a beautiful winter day. Because of the Martin Luther King holiday, her three children are at home and demand more and more of her attention as the interview progresses over the course of an hour. I wish I had brought coloring books or toys to keep the children occupied. The large screen TV takes up most of one wall in the modest living area and is playing in the background on low volume. As the children run back and forth through the living room on their way between the hall and the kitchen, they occasionally pause in front of the TV, especially if it is on a commercial break or if something interesting catches their eye. My interviewee is a blonde, blue-eyed mother of a biracial (White and African American) 4th

grade girl who is 11 years and 4 months old. Her BMI of 26.8 places her well above the 95th percentile for age and gender. I do not meet the daughter because, although her brothers are in and out of the room constantly, she does not leave her bedroom down the hall from where her mother and I sit on the microfiber couch with my tape recorder in between us. The daughter has been teased about her weight in the past and I wonder if that is why she does not venture out to meet a stranger in her living room. The mother is eight months pregnant, but her pre-pregnancy weight and height information places her in the normal BMI range. She shifts positions uncomfortably as we talk and tries to keep her eyes on her other children as they come and go. She is very engaged in our conversation, but is often interrupted by the needs of her small children. One of the boys puts on his jacket and goes outside where he is allowed to play in the front yard only. We can see him through the picture window and he comes running back in crying because he has seen a dead cat in a trash can. This mother keeps her answers brief and direct, but answers my questions thoughtfully in between tending to the needs of her family. Her main concern is the importance of healthy food and playing outside and she returns to these points often throughout our interview.

Parent #2 is the grandmother of a 4th grade African American girl. She wanted to meet me at the school on a February morning. I arrive first and watch as she walks up the long sidewalk leading to the front entrance of the school. She walks with the help of a cane and I open the door for her as we make the introductions. She is a very pleasant woman in her sixties who has dressed up for this occasion and is wearing a green pant suit and blouse. She is a few years older than me but we are immediately at ease with

each other. The principal allows us to use her office for the interview, so we have a semi-private area with an open door through which we can see the activity in the hall outside and hear the loudspeaker in the ceiling of the office. She has brought a manila folder full of photographs and keepsakes which she shows me while we are talking. She is 5'5" tall and weighs 287 pounds, so her BMI is 47.8. Her knees give her problems, but she tries her best to keep up with her granddaughter. Throughout the interview, she tells me parts of the story of how she came to have custody of her nine year old granddaughter. Both parents are living and in town, but neither spends much time with their daughter. The girl is in the fourth grade and has a BMI of 32.6 at nine years and five months old, and is considerably above the 95th percentile on the growth charts. The grandmother is clearly a loving and stable influence on this child. She talks at great length in response to each question I ask and is very insightful. The transcript runs over fifty-seven pages. She is anxious for me to meet her granddaughter and we visit briefly after the interview.

Parent #3 is the Caucasian father of six biracial (White and African-American) children. He works at the school and we meet there one afternoon after two cancellations due to the illness of some of his children. It is nearly the close of the day and as we sit in the miniature chairs in an empty art classroom with my tape recorder on the little round table, his children begin to find their way to where we are and congregate around us, either sitting in the floor or writing on a mobile chalk board near us as they wait for him to take them home. They are very well-mannered. He occasionally points his finger or snaps his fingers in the direction of one of them and they immediately behave. He is not a teacher, but occasionally substitutes in the PE class. He is six feet tall and weighs 300

pounds, so his BMI is 40.7. His fourth grade son is 9 years, 11 months old and has a BMI for age and gender of 16.9 which is just above the 50th percentile. He is very open about his struggles with his own weight throughout his life and is modeling a journey to a more healthful lifestyle for himself and his children. He is an assistant pastor in a local church and his concerns voiced in the interview are nutrition, physical activity, and the need for a stable home life.

Parent #4 is the single mother of an African American fourth grade girl who is ten years and seven months old with a BMI for age and gender of 17.8, just above the 50th percentile. At the end of the school day, as I sit waiting for the mother who is rushing over from Broken Arrow where she works, I receive a message from the office that she will be late and do I want to reschedule? I send word that I will wait. It is raining and as I wait in the front hall of the school, I observe children huddled inside waiting for their rides. A teacher is calling their names when she spots a familiar car or sees the parent. Some children are staying an hour after school for tutoring. A table full of The World's Finest Chocolate is set up for delivery of the sweets which have, presumably, been or will be sold by the students. Teachers are escorting some students where they need to go and many students are staying after school for testing in the gym. It is apparently a mandated test because teachers are asking students if they have taken the test yet. If not, they are ushered into the gym. When Parent #3 arrives, we go to a very small, in fact, tiny counseling room where we have been told we will have privacy for the interview. It is about the size of a closet and the two chairs take up all the room. I wonder what kind of counseling this arrangement is conducive for. A sign has been posted on the outside of

the door announcing that counseling is in progress, but we are interrupted half a dozen times by people opening the door and seeming surprised to find us there. This mother is 5'6" with a BMI of 29 which is on the cusp between overweight and obese. She is very animated and talks very fast. We have a lively discussion in these strange surroundings. Occasionally, when she gestures with her arms, her movements are confined by the claustrophobic space. The noise from the hall is constant and the door makes a weird squeaking sound that alerts us just before it unexpectedly opens each time. In spite of the location, the interview is very productive and she is very engaged in our discussion.

I meet with Parent #5 in the late afternoon at the school where she works. She is a single mother, 5'1" and 240 pounds. Her BMI is 45.3 which is in the very obese category. Her fifth grade son is 10 years and six months old, 4'11" and 140 pounds, BMI of 28.3 which is significantly above the 95th percentile for age and gender. Her nephews, whom she raises jointly with her sister, go to this school and they come in periodically to talk to her. Her own children go to different schools. As we sit in a window seat in the vacant library with the tape recorder between us, her animated expressions and boisterous gestures punctuate her comments and belie a sense of humor as well as a sincere concern for this issue. I pause my recorder several times as she is called out of the room to handle what she calls a "sausage crisis." This is delivery day for sausage which has been sold by the students as a fund raiser and parents are arriving to pick up their allotments. They used to sell candy, but have switched to sausage as a "healthier alternative." She laughs frequently as she tells about how she and her children support each other as they try to lose weight and get healthy. Her concerns are primarily

nutrition, exercise, self-image and bullying. She's very involved with the students at the school where she works. Her enthusiasm and sincere concern are infectious when she relays a conversation with her daughter. "Oh, you had a bag of chips and a pop? Oh, that's just disgusting!" "Grab you a fruit. Get some fruit to eat!" She's pushing for a health program to be implemented in the school to help kids and their parents lose weight.

As I wait in the school office to meet Parent #6, I notice a large sign that reads, "On your worst day on the job, you are still some child's best hope." I reflect on how poignant that thought is for both parents and teachers and how it relates to the obesity epidemic as well. Three students were asking to use the phone to call someone to come pick them up because no one came. It's nearly 4:00 pm. The office worker asks, "Are they home?" One young girls explains, "Probably, but sometimes mom and dad don't wake up. If they don't recognize the number, they won't pick up." She has called home three times already. Soon, Parent #6 arrives for our interview so I do not find out how the children will get home. She is the single parent of a middle school daughter, a small son, and a 5th grade daughter. She is thirty years old, 5'7 ½", 180-185 pounds, BMI of 27.8 – 28.5. She says of herself, "I'm kind of big. I'm overweight." Her 11 ½--year-old daughter is 5'4" and 100 pounds, BMI for age and gender 17.2, between the 25th and 50th percentiles. The mother's straight, bobbed black hair hides large gold earrings that make a dangling noise occasionally as she turns her head. She's neatly dressed in black slacks and a grey over-blouse. We are sitting in a conference room with the door closed and her older daughter is caring for the younger son in another part of the office.

Although she is very articulate, she is visibly shy at first, pointing to the tape recorder and whispering when she is trying to organize her thoughts. I explain that the recorder is just to help me take notes. Now the batteries in my tape recorder run down and, noticing the tape is not turning, I start to change the batteries, but then quickly plug it in to a wall outlet behind me. A little flustered, I repeat an earlier question and she graciously answers again. Now she's more relaxed than I am. She begins to talk at length about the need for exercise and good food and is concerned about the stress in the lives of children. She recounts several incidents that illustrate her point as she describes changing family situations and peer pressure at school. At the end of my questions and her discussion, she says "You helped me to think. This was very interesting."

My husband drives me to an elementary school on the far north side of town for my 4:30 pm interview with a teacher. I'm glad the interview is finally happening even though it means the teacher is staying later than usual and my birthday festivities are interrupted for a time. It is a mild winter day and the interview has been rescheduled three times due to recent ice on the roads, the holidays, and an illness. As we drive to the area of town where we both grew up many years ago, my husband and I remark to each other about the changes we see. Things are generally run down in our old neighborhood. We take a slight detour to drive by the house where I grew up. I haven't seen it in decades. There is some kind of shed out back that wasn't there before. It is leaning and seems on the verge of collapse. The house needs paint and a few major repairs, but is in better shape than those around it. We sigh and drive on to the house where he used to

live. There are now bars on the windows. Nostalgia can be depressing, so we quickly turn back to the main road and continue to my appointed destination.

Days ago, my husband had insisted that I not go alone. "It's not safe for you." I had scoffed and insisted, "I'll be fine.", but he was adamant and, in the end, I acquiesced. It is mid-January and there have already been five murders in this part of town. Violence is fairly commonplace. As we drive by the place where a man in a wheelchair was shot and killed a few weeks ago in broad daylight, my husband reminds me that he was just in the wrong place at the wrong time. The disabled man was at a gas station and caught a stray bullet from sudden violence across the street. We heard on the news that a man was arrested in connection with the shooting.

I am somewhat troubled, but not anxious about the number of interviews I will be doing in schools and homes here in the next few weeks. There was violence here when I was growing up, but not like now. Back then, when I was in school, we had to deal with kids with switchblades and chains; now there are drugs and guns. I wonder if safety will come up as an obesity issue in this interview with an elementary school teacher.

When we arrive at 4:20pm, the doors of the school are locked. I had anticipated this and had asked the teacher ahead of time if I would be able to get in at this time of day. She said she would be tutoring students until 4:30pm and I should be able to get in as the kids were leaving. There are a couple of cars parked near the entrance and I assume they are waiting for children to come out. I put on my gloves and wait just outside the doors in the cold. I don't want to miss an open door opportunity. My husband waits with me. I have her cell phone number if I need it. At 4:30, I hear the sounds of boisterous children coming down the hall just inside the door. As the lively children burst

through the doors and come out, I go in and my husband says he will be back in an hour. Surely he's over-reacting to the recent violence and being over-protective? After all, we both grew up near here.

I find Teacher #1's room. As more students are leaving, she is offering them a piece of fruit to take home with them. A couple of students refuse the fruit and she suggests that they take it for later or for their brother or sister. She welcomes me in to her classroom and I ask if she would like to take a break before we begin, but she says she is ready. It's been a long day and her blonde hair is a little straggly. She pulls the stray strands back behind her ears and says she'll find me a big chair. "No," I say, "that's not necessary. We can just sit here at the little table if that's ok with you." We take our seats at the small table with child-size chairs and I give her a copy of the consent form to read and sign as I prepare my tape recorder. She is 5'11" and about 180 pounds, with a BMI of about 25.1. She talks about the importance of exercise and a well-balanced diet, not sitting all the time, and too much time playing video games. She is very concerned about violence in the neighborhood and cautions me not to walk alone to my car and not to be in the area after dark. Her classroom has twenty-two chairs arranged in five rows facing the front of the room where her desk sits in one corner. The walls are covered with colorful reminders of activities, projects, and announcements of import. One side of the room has a large white board and a TV is at the front of the room. She explains that they watched the inauguration today. An announcement came over the intercom early this morning to turn the TV on, but quite a bit of time elapsed before the new president was speaking and by then the kids were very restless and inattentive. They had been sitting still for too long. Many were yawning and few were watching the

momentous occasion playing out before them. The kids had by that time been sitting still most of the day watching TV in class, and a dozen or so had stayed an extra hour for tutoring after school. The last few were gathering up their coats from their lockers across the hall and racing for the door as I arrived at 4:30pm. She offered them fruit as they left.

Teacher #2 is African-American, 5'2", 148 pounds, BMI = 27.4, overweight. We are meeting during her half hour planning period, so her responses to my questions are direct and to the point. She is scheduled to escort her class to the cafeteria for lunch in thirty minutes. Her dragon-fly earrings seem to flutter as she talks and I reflect that it must be fascinating to the children in her class. She talks about the need for daily exercise and nurturing food. She thinks the lunch menus need to change because they have many starches daily. Recess needs to be allowed daily and PE class needs to be put into the daily schedule. She also suggests that a health program should be taught daily in the classroom. Talking very slowly and deliberately, she doesn't seem to be rushed, but answers each question and we complete the interview just as she needs to leave.

I meet with Teacher #3 in his empty classroom after school. He is 33 years old, Caucasian, 5'10", 165 pounds, BMI = 23.7, normal weight. He believes children should have daily opportunities to exercise both at home and at school, and that children exercise less today due to the "video gaming industry." He's concerned about the stress that many of the children experience in the instability in their family situations. As we sit at one of the little round tables and chairs, he points to different empty seats as he describes things that are barriers for the child that normally sits there. He takes off his

black horn-rimmed glasses, pensively, as he talks about bullying, absenteeism, and barriers for kids and parents, and contrasts the ideal world with the reality that these children face every day.

Teacher #4 meets me at the end of the school day and is primarily concerned about keeping kids away from the TV and being more active, and staying away from junk food. She said her school has PE once every three weeks for a week, alternating with music and art. She is Caucasian, 5'6", and does not disclose her weight. She's concerned about the lack of parental involvement, but recognizes the priority conflicts with work. She is very animated, heaving an exasperating sigh or laughing nervously when she talks about the challenges her students are facing.

Teacher #5 agrees to meet with me on her planning period. She is African American, 5'2", 135 pounds, BMI = 24.7 on the cusp between normal weight and overweight, age 41. It is very noisy from the traffic of children passing in the hall, or talking in the nearby classrooms. She advocates the need for a daily physical activity program and is concerned about the disease risk associated with overweight. Parents need to get more involved. She excuses herself to escort her class from the computer lab to their "specials" class. I wait for her return and then listen to the kids protest loudly in their own defense as they are walking by when she says "I know you all didn't do what I said." A couple of times, a child walking alone in the hall notices me sitting at the table and says, "Hello." I greet them with, "Hello" and they continue on their way. When she returns, she talks about too much TV and game time. She's been teaching for twelve

years and commutes from another town. That limits her ability to be involved with her own child's after school activities.

The school principal has set up a meeting for me with Teacher #6 and is out of the office on the day of the interview. Unfortunately, the teacher does not know it is scheduled on her planning period today. She is caught off-guard, but graciously consents to go ahead with the interview. We are meeting in what appears to be an empty supply room. Occasionally someone comes in looking for office supplies or to use the copy machine. She declines to give her height and weight and describes her anthropometric data as "It's overweight, by a lot. You don't want my weight." She stresses the importance for kids to get enough sleep, exercise regularly, have good food to eat and good snacks. She's concerned about kids being home alone for extended periods and having to fix their own meals with whatever happens to be in the house. Kids tell her they go home and watch TV or play computer games while their parents are out. She's been teaching twenty-five years and thinks the increase in overweight she has seen is partly because the kids have PE only once or twice a week "and by the time it rolls around, they're tired and have to start over." She says it needs to be every day.

Selected Themes and Sample Quotations

Domain 1: How would you describe a healthy lifestyle for children?

The prominent themes that emerged within Domain 1 are summarized in Table 4, along with the number of parents and teachers who expressed comments relative to each theme. In their descriptions of a healthy lifestyle for kids, most of the parents and

teachers talked about the need for kids to be physically active and to have healthful food. More teachers than parents included getting enough sleep, limited game and TV time, feeling safe, and not too stressed. More parents included cleanliness, and going to school.

Table 4: Themes expressed by parents and teachers in describing a healthy lifestyle for children.

Domain 1: How would you describe a healthy lifestyle for children?		
Parent and Teacher answers included references coded to seven emerging themes:	**Number of parents**	**Number of teachers**
Healthful food	6	5
Being physically active	5	6
Limited game and TV time	1	3
Getting enough sleep	1	4
Healthy relationships	1	2
Feeling safe	0	3
Not too stressed	0	3

Theme 1: Healthful food

Parents and teachers voiced the need for kids to have healthful foods, including fruits and vegetables, whole grains, and a source of protein. Both parents and teachers were concerned about the amount of fast food and junk food that kids consume.

> *The main thing is to eat healthy and eat the right foods.* (Parent #1, line 28)

> *They need to have vegetables and fruits and grains, meat, sources of protein* (Teacher #1, lines 15-17)

> *A good diet. A lot of our kids eat, uh, the packaged food and fast food which is quick and it's helpful to parents because you come in from work and you're in a hurry to get dinner ready, but it's not necessarily the best food, and healthy for 'em,* (Parent #5, lines 27-31)

> *Staying away from the junk food, soda, candy, eating more fruits and vegetables.* (Teacher #4, lines 15-16)

> *I'm finding out that they're eating a lot of junk food at home. With today's, you know, moving so much as a society where we don't have time to have a*

real good, home-cooked meal, a lot of the parents will stop at fast foods and this can be three or four times a week and that's causin' a lot of our children to not be healthy and overweight. (Teacher #2, lines 24-30)

Their references to fast foods and changes in society indicate awareness of some of the behavioral and social factors involved in overweight that are documented in the literature.

Theme 2: Being physically active

Physical activity was widely acclaimed as part of a healthy lifestyle for kids. Parents and teachers agreed that kids need to be physically active both at home and at school. At home, playing outside was seen as especially important and at school PE class and recess were seen as important to a healthy lifestyle for kids.

> *I think that nothing can replace the importance of, nothing can replace the importance of, uh, outside play. You know, a child outside playing in the dirt, you know, running around the yard, jumping rope, riding bicycles, swimming if it's, if it's available. Just activity that keeps them out from in front of the television* (pause) *so much. And sitting and looking even on the internet too much.* (Parent #3, lines 39-46)

> *Oh, active! Definitely active. Uh, I think not just at school, but active at home, also. I think they need to be active at school. I know, uh, we encourage our kids to go outside out on the playground here, so, but and run and play. I think they need to have gym, they need to have gym but they also need to be active at home.* (Parent #5, lines 10-15)

> *And the only exercise, basically, that they have, is either walking to school or what they get at school, where when I was a kid, um, we had to go outside. My mom, "Go outside!" And at recess, we played games like tag, where you ran and we raced. Um, here, when they go out at recess, they are very, they get in groups and they don't do anything. They sit and they talk because that's what they do. Um, when I was a kid, we would go to PE, we would play games and do exercises and just recently this past year, I would say, they, they didn't, they don't want to do that. Like, it's like, "Oh, I don't want to go to PE!" They don't want to be active.* (Teacher #1, lines 26-35)

This data unit contains an indigenous contrast which captures distinctions between how it used to be, “we played games. . . we went to PE” whereas adults perceive children’s desires today as different.

What I envision as a healthy lifestyle for kids is one where they’re given an opportunity both at school and at home to exercise. I think this generation of kids, more so than even my generation, we’re seeing that obesity and I think it’s primarily due to a couple of factors. I think kids are not exercising as much as they once did, probably a little bit due to the (video) *gaming industry*. (Teacher #3, lines 11-16)

The literature is replete with references to “screen time.”

Well, they need to do the, the not just the, you know, walking but running, jumping, the cardio, the where they keep the (pause) the heart rate up for at least for ten or fifteen minutes. You know, exercise where they go outside and run and play and have fun, instead of you know, instead of sitting all day (laughter). (Teacher #6, lines 21-26)

Many of the comments in the interviews refer to “going outside.” Being physically active is nearly synonymous with outside play, although there are a few references to a Wii game that helps kids be more active indoors.

Theme 3: Limited game and TV time

The need for limiting computer game time and TV time in a healthy lifestyle for kids was voiced more often by teachers than by parents. Teachers saw screen time as one of the major impediments to an active lifestyle for kids.

Well, the kids that I see go home and go inside and play video games. (Teacher #1, lines 25-26)

Number one, would probably less time in front of the TV. (Teacher #4, lines 10-11)

If their activities are outside instead of watching TV or games on the computer, I think they would be healthier. (Teacher #6, lines 17-19)

Uh, she is healthy. She don't – She play video games in spurts. She got a new Wii game for Christmas and probly, I probably played it more than she has. (Parent #2, lines 13-14)

Theme 4: Getting enough sleep.

Getting enough sleep was mentioned primarily by teachers and in reference to the need to be alert in class. Some kids, they say, are too tired to want to be active. Only one of the parents mentioned sleep when describing a healthy lifestyle for kids.

Getting, sleep patterns are real important, I think. Kids do not get, they do not have regular bedtimes. They do not have regular schedules. . . . I would say 75% of my kids at noon were just zonked. They were so tired because they don't sleep at night. I think sleeping is such an important factor. (Teacher #1, lines 51-62)

And so I don't think a lot of my kids have a set bedtime. I hear a lot of my kids talking about over the weekend,"I stayed up all night Saturday night." or, you know, even on school nights,"I stayed up till 4:00 playing on my Play Station." or whatever. And, I, yeah, it just makes you think, where was mom or dad or if they're not in the picture. (Teacher #3, lines 122-128)

Well, plenty of rest is one of the main ones. (Teacher #5, line 336)

Oh, well, she's in, she's asleep by 8:30 and she's up by 5:30. So, she sleeps all the way through at night. She sleeps good. (Parent #2, lines 630-631)

Theme 5: Healthy relationships.

Teachers, primarily, voiced the need for healthy relationships and a stable home life as essential to a healthy lifestyle for kids.

T*he students that I serve come from pretty, what I perceive to be, dysfunctional households. Um, they're pretty lax, um pretty lax, on the rules at home.* (Teacher #3, lines 120-122)

And, uh, I (grandmother) *have custody of her. She go see her mom and dad when she gets ready. It's no stipulations on that. And, other than that, she's just kind of – she don't have a whole lot of kids to play with unless she come to school.* (Parent #2, lines 18-20)

I have three different students that, on any given day, will fall asleep first thing in the morning. And usually it's because of whatever has happened at home.

I mean they just have a really rough home life. (Teacher #4, lines 206-209)

Well, uh, you know, their life at home, too, their family (pause) *plays an important role to be healthy.* (Teacher #6, lines 30-31)

The many references in the data to dysfunctional family relationships and instability in the home life of children indicate a possible perceived linkage between healthy relationships and the prevention of obesity.

Theme 6: Feeling safe.

In describing a healthy lifestyle for kids, teachers mentioned feeling safe. Three of the teachers referenced incidents involving fighting, shooting, and gang activity.

I also think that mental health is a huge important factor. Um, feeling safe in your own home. (Teacher #1, lines 63-65)

We've talked about this should be a safe place and I feel safe here. I mean, I'm obviously different from all my students, you know. Um, I'm uh, I'm actually a minority. And people ask me all the time, you know, when they see the shootings, aren't you scared? Umm, not really. Because I don't think a lot of people, bad people don't come here. They don't have time to come here. They're off doing other things, you know? So, I feel safe here. I think my kids feel safe here. (Teacher #1, lines 79-86)

But I've heard, after they're dropped off the bus, kids getting jumped, fights breaking out where there's no parents around, no adults to intervene. Um, I've also heard about other kids saying how they've either gotten beat up or other things happened to them, being bullied by other just random kids, not necessarily kids they ride the bus with, maybe sixth or seventh graders, older kids just that live or happen to be in the area. (Teacher #3, lines 566-572)

I know there's gang activity pretty much everywhere and, um, the west side of Tulsa is no exception. Whether these kids are aware of it, I think to an extent, they're a little aware of it but not maybe as much as I see in some others. I've kind of observed and worked briefly in some other schools and just in different sections of town, you can notice that there's more gang activities and in those areas, kids are obviously more aware of it and understand what is out there. These kids, I think, more see, for instance,

rappers on TV that are claiming, "West side" and they think it's kind of fun. They don't realize that if, you know, if you're on the wrong side of the tracks and you say, "West side" that could be your life. So. They're aware of it, but I don't think as aware of it as some kids. (Teacher #3, lines 578-590)

Parents and teachers alike were well aware of gang activity in the neighborhoods and indicated that the children are also very much aware of this danger.

Theme 7: Not too stressed.

Family situations that their students talk about and general violence in the community were given by teachers as examples of stressors in the lives of their students. For a healthy lifestyle, they commented, kids should not be too stressed.

> Well, uh, you have a lot of stress with, uh, their parents, you know, they have a hard time with the job, and they come home and I mean just, you know, the communication, um, instead of a lot of hollering and screaming, you know, just relaxed where they feel safe, you know, and those kind of factors plays an important part because, just, uh, stress, I mean, could bring people down. (Teacher #6, lines 33-38)

> Not having stress levels. In North Tulsa, there's a high stress level. Um, one of the concerns that I have is, I mean, you see on the news every night that someone gets shot. I mean having to, how can you honestly go to bed at night, you know, and know that you're safe and secure? (Teacher #1, lines 65-69)

There are several examples in the data of children staying up all night because of a stressful situation at home and then being too tired to do school work or exercise at school the next day.

Domain 2: What does overweight in kids mean? How do you know if a child is overweight?

Overweight was described by both parents and teachers in terms of appearance, body mass or weight, and limited functionality, as shown in Table 5, below, and eight respondents commented on the increasing prevalence in overweight they had noticed.

Table 5: Themes expressed by parents and teachers in describing overweight in kids.

Domain 2: What does overweight in kids mean? How do you know if a kid is overweight?		
Parent and Teacher answers included references coded to four emerging themes:	**Number of parents**	**Number of teachers**
Appearance	5	4
Body mass	3	6
Can't do some things	3	5
Prevalence	3	5

Theme 1: Appearance

Most respondents said they could identify an overweight child by a visual frame of reference and used terms such as "thick" and "big", compared to other children their age.

> *I guess they're just, um, just kind of fatter.* (Parent #1, line 33)

> *You can look at 'em. . . . She's a big kid, have you seen her?* (Parent #2, lines 49-56)

> *You know, and when you see a child who, for lack of a better term, their body fat is so, it's, it's so much of it that you can't see their neck anymore and their stomach is hanging over their belts and their clothes are, you know, adult sizes being hemmed up, down to a child's length. So I see that all the time.* (Parent #3, lines 152-157)

> *Well,* (pause) *uh, that's kind of a hard question. I don't, I don't know that I really know what a specific definition of overweight means. Um, but I, you know, it's something that I can usually tell just by a visual frame of reference. . . . I'm thinking of a specific example where we have a student in second grade who is quite a large young man or young boy, and by looking at him, you would never guess that he is in second grade. He is that, that overweight. . . .I actually personally have a nephew that is eight and he is, how, I've gotta say he is 120 pounds. He is enormous. Even as a*

little guy, he was probably that wide (illustrating a width of about three feet with his hands) *he's just always been a large kid.* (Teacher #3, lines 151-154, 158-161, 628-632)

Uh, through, uh, the, uh, body weight on and the thickness of them (she motions with her hands to illustrate a wide trunk). (Teacher#5, lines 34-35)

Theme 2: Body mass

Parents and teachers described overweight in children in terms of body weight and size compared to an average of the children around them. Some parents relied on their child's doctor to tell them if a child was overweight, and said notations were made on the child's chart but that they never got to see the growth charts and were not advised of their child's weight status by their doctor.

To me, the term overweight means that they're over the recommended weight and height for their age. (Parent #3, lines 151-152)

I would guess, you know, if you, if, if they're not the normal weight size, if they have a weight problem, if they're over their normal weight. And I don't really know, I couldn't tell you what's the normal, average weight for a child. I don't know. That's not, I take my kids to the doctor. If they're overweight, if they're a little bit, I don't know, maybe fifteen pounds overweight? I have no idea, but I would think if they're too heavy for their age, or for their height, I would think that's overweight, so. . . And I guess if there was anything wrong, what they would, they were overweight or whatever, they would let me know. (Parent #4, lines 73-80, 96-97)

If they're, I guess, in a weight class bigger than the majority of the students around them, that kind of puts them in an overweight class. (Parent #5, lines 62-64)

And then the fourth and fifth grades participate in that FitnessGram® testing where they do that pretest and posttest and they take their BMI at the front of the year and at the end of the year . . . some of the kids are kind of embarrassed by how much they weigh and some of the kids are tiny. Like I have a kid that weighs 60 pounds and I have a kid that weighs like 160 pounds. In the fourth grade, it's so weird. Like some of 'em have grown and some of 'em haven't. So. I have a, I mean, my class is really diverse. I have some little bitty kids and I have some big, monstrous looking kids that are as big as me in the fourth grade. There are some big kids. (Teacher #1, lines 705-707, 715-722)

> *Uh, size. By their size. Umhmm. I have a fourth grade student that, he's about, I'd say three, a little over three feet, and I'd say that he weighs a good 120 pounds. I have another student that's a female and she's about five feet, 4'9", five feet, maybe 5'1" and she looks like she's weighing maybe 100 pounds. There's another student, another female student – she weighs every bit of 100 plus thirty pounds. She's a tall girl, but she's still an overweight girl.* (Teacher #2, lines 80-86)

Theme 3: Can't do some things

Being limited in some physical activities was frequently mentioned in connection with overweight. Both parents and teachers commented that overweight students may not keep up with the physical activities of the other students or may not want to participate at all in strenuous activities.

> *It affects their, it affects several things. One thing I see 'cause I, I teach physical education sometimes, as a substitute, and sometimes I see the larger children having difficulty doing the other activities that the students are doing, getting down on the floor, getting up quickly, running, you know, around the track or what have you. So they have, they have a hard time with that. Plus the fact (pause) plus the fact they have difficulty focusing a lot of times because they're out of breath or they're just lethargic. . .we have one young man in the school who is morbidly obese. He's just a first grader, but he's very large. He has trouble focusing. He just, he just lays down sometimes because he's just so lethargic and so out of breath and so out of shape.* (Parent #3, lines 179-193)

> *Um, that's a good one. To me, if I pick up a child that's overweight,* (pause) *it's that child that I see that's struggling to, to keep up with the majority of the kids on the playground. It's that child that just kind of, they'd rather just sit back and watch the TV than get out and play on the playground, or run and play. It's that kid that whenever you come around, they're, you know, they're just not active. They'd rather do the, I'll , I'll go watch the TV." They're just not being active. So I look at that as being the child that's being overweight.* (Parent #5, lines 50-58)

> *If they're slower than, you know, normal, sleeping a lot, not wanting to, you know, not wanting to participate in activities and just sluggish and, you know, over weight. . . .They'll be, they get tired quicker, you know. Um, they would be sluggish, they would be tired quicker. They wouldn't want to, you know. I have a nephew. He's overweight and he's just sluggish, he sleeps a lot and he just sits at home and watch TV. He doesn't have any*

activities, he doesn't want to do anything but eat and sleep, you know, so. (Parent #6, lines 86-89, 93-99)

And I think that when that hinders their daily lifestyle, is when you would consider them being, when they can't do normal daily tasks, like when they can't bend over and pick up a pencil or when they can't, say, walk to somewhere in the school that might be out of their normal routine without being out of breath. To me, that's a concern. (Teacher #1, lines 118-123)

Uh, last year we had outdoor fun activities for the students and I either noticed our overweight children sitting on the side. They were out of breath. They didn't participate in certain games. They waited to rotate to different activities. If it involved anything that had to do with running, they didn't participate in that game. It had to be something that, uh, like dancing and they were able to just listen to music and dance. Now you would see them doing that. Uh, but the overall, another one is the tug-of-war. You would see them doing the tug-of-war because they do have their strength (she demonstrates pulling on an imaginary rope), *but if it involved anything rigorous – running, uh, hopping, skipping, jumping – they didn't participate in those games. So it does affect, you know, them doing certain things that they wanna do but they can't do because of their weight.* (Teacher #2, lines 131-150)

You know, the more physical the activity, the less they do. They tend to just shy back and not even participate when it gets to be, you know, a real high physical activity.Or they may participate a little bit and then they're just so winded and worn out that they just kind of stop and try to catch their breath. (Teacher #4, lines 66-72)

Theme 4: Prevalence

Parents and teachers remarked on the increase in the prevalence of overweight in kids that they had noticed in recent years.

I think in (pause) *with our kids, we have more kids that are overweight, I think so, compared to just a few years ago, we have more kids that are overweight. And I think, like I say, I think part of it is the parents, maybe the parents because the shifts that the parents work, they're not there to say, "Get up and get out this house and go play." or the food, also.* (pause) *I don't know. I don't know what all the factors would be, but I just think I see more of the chubby, chunky, fat kid than I did a few years ago.* (Parent #5, lines 469-476)

Yeah, it is increasing tremendously. Even in the middle schools. My son is in middle school and, um, my sister is a teacher in high school and I even go

visit there, and it's like, you look, you would be surprised how the obesity in our kids is. It's just, yeah, it's really bad. We should do somethin' about it. (Parent #6, lines 170-174)

I would probably say I have at least four kids that are close to being obese and it concerns me because they are African American and they're at higher risk for diabetes. (Teacher #1, lines 125-127)

Yes, I'm, I'm starting to see a lot more overweight children. This is my nineteenth year teaching, and I'm starting to see more and more, uh, children that are not fit and very unhealthy. (Teacher #2, lines 169-170)

Domain 3: What are some of the things you think could lead to overweight in children?

As shown in Table 6, all of the teachers, compared to two of the parents, mentioned sedentary lifestyle as a contributing factor. Five teachers mentioned not playing outside, junk food or fast food, and the perception that good food costs more. Four teachers mentioned stress and four parents mentioned genetics.

Table 6: Themes expressed by parents and teachers in describing the factors that contribute to overweight in children.

Domain 3: What are some of the things you think could lead to overweight in children?		
Parent and Teacher answers included references coded to nine emerging themes:	**Number of parents**	**Number of teachers**
Junk food/fast food	5	5
Sedentary lifestyle	2	6
Too much TV and game time	3	4
Not playing outside	2	5
Stress	3	4
Good food costs more	0	5
Too little sleep	1	3
Genetics	4	0
Media influences	0	3

Theme 1: Fast food / Junk food

The terms "fast food" and " junk food" were used interchangeably to imply food

that has a high fat content, high sugar, and/or high salt content. The consensus was that fast/junk food is preferred by adults for convenience at times, and is almost universally preferred by kids for taste.

> *Everything's starchy. Everything, you know, it seems to me today's society has really deteriorated a lot from when I was growing up where mom's, mom's, um, menu for the evening was a meat, a starch, a vegetable. You know, everything was planned and well-balanced. Today, it's McDonalds and Papa John's Pizza, and Dominoes. It's just something quick and easy, something quick and easy, something quick and easy* (clicking his fingers three times in rapid succession, as he repeats this thought)**.** (Parent #3, lines 97-105)

> *Uh, some of the things that could lead to overweight in children would be, uh, eating fatty foods, eating food that's not good for 'em, not eating enough vegetables, not eating proper food, you know.* (Parent #6, lines 31-34)

> *I think a lot of it has to do with what's easy. When kids go home, a lot of these kids are by themselves. Uh, instead of grilling chicken, which I hope to God they're not doing, you know, they open up a can of spagettios that's loaded with sugar, starch, and carbohydrate. That's what they eat. And then they're sitting there at home doing nothing. Plus they have, they always have this supply of candy. I don't know where it comes from. But they all have it. And they eat it from God knows when. . . the options for their food are limited, you know, they have to eat what's in their home. And cereal's another one. They eat a ton of sugary cereal.* (Teacher #1, lines 97-110)

> *I think a lot of prepackaged foods. Um, you know, just with the busy schedules that the parents have. Um, I think just, you know, with the TV dinners and the like, a lot of preservatives, higher in sodium, higher in fat. I mean I think those are things that probably a lot of families are eating, especially the fast food, or it boils down to the cheapest food is usually the most, or the, uh, yeah, the most unhealthy food. Um, those dollar menus, while they're great for the wallet, are not great for the body. And, um, many of the struggling families, it's all they can afford. And even at the grocery store, your cheaper items are, are typically your less nutritious, and full of preservatives and other things that are not gonna be beneficial to them.* (Teacher #3, lines 54-58, 497-505)

> *Chips, pop, uh, just not being active, eating, uh, bad carbs, not, not eating anything that's healthy. No fruits or vegetables, just eating junk food, basically.* (Teacher #5, lines 19-21)

Theme 2: Sedentary Lifestyle

A sedentary lifestyle was noted more often by teachers than by parents. Teachers commented that kids are more likely to play games on their computers or game boxes than to go outside and play the "real" games. This inactivity was seen by both parents and teachers as one of the major contributors to overweight in kids.

> *They're not, they're just not getting out, they're not active.* (Parent #3, lines 146-147)

> *And making sure they get enough exercise* (Parent #6, lines 103-104)

> *Kids are, you know, more likely to play football on, you know, their Play Station instead of going outside and doing it.* (Teacher #3, lines 18-19)

> *A lot of it is just inactivity, you know, the sedentary lifestyle. They go home, I mean they sit quite a bit at school, then they go home and they sit and watch TV and play their video games and so they're not moving around.* (Teacher #4, lines 22-24)

> *Um, just getting involved in sports. And, uh, just walking, doing a little jogging, you know just doing a lot of little activities to keep your, keep your heart up because, you know, once your heart just sits there, it gets softer, you know, it don't stay pumped up as well.* (Teacher #5, lines 119-123)

Theme 3: Too much TV and game time

Parents and teachers alike felt that game time and TV time should be limited and some felt there should be less that four hours per week devoted to these activities.

> *I'd say none. No TV during the week. And, if they're games, they would just have to be if they deserve it, you know. TV time should be on the weekends. 'Cause by the time they do they homework, they don't have time for no TV shows. That's about what she do. She will, she'll push you to put it on Hannah Montana and, uh, eat after her bath, 'cause that station stays on all night long.* (Parent #2, lines 762-766)

> *Sitting in front of the TV for hours on end, unsupervised. Sitting on the internet. Sitting on cell phones, texting. Uh, different things like that. So they, they don't get a lot of activity. . . so there's too much television being watched, too much internet, too much texting, too much, you know, just sitting down.* (Parent #3, lines 87-90, 144-146)

They're snackin' and playin games, watchin' TV playin' games. You don't see a lot of children – when I was growing up, we used our imagination and was outside playing games. I don't care if it was rain, sleet, or snow, we wanted to get outside and play and this, today's society, with the generation of kids that I've been working with the last twenty years, it's about playin' games. It's about watchin' TV and doin' just those two things alone, they're overeating. The main reason why I see is why kids don't go outside to play is because they're busy in the house with these games and watchin' TV. But the average household, they have a game in it. And the kids are gonna go home, they can't wait. As soon as they know it's time to go home, you can hear their conversation. "As soon as I get home, I'm gonna play my 'so-and-so' machine. I'm gonna play this game. I'm, I'm almost about to graduate from this level to this level", you know it's, it's the main talk. (Teacher #2, lines 92-93, 97-103, 349-357)

Maybe two hours. That's all they need a week. Or not a week, well maybe an hour at least, a week. And then, you know, if it's -- maybe two hour a week. Not too much TV. They need to start reading. Maybe just, you know, doing a lot of, but see, some of these kids over here don't go outside like they should. (Teacher #5, lines 294-298)

Parents and teachers both expressed the idea that TV time should be very limited, and yet there is quite a disconnect between the number of TV or game time hours reported in the literature that children are spending versus what these parents and teachers seem to believe is appropriate. One of the parents that I interviewed in her home had the TV on as background noise all day, even during the interview.

Theme 4: Not playing outside

Parent and teacher comments frequently associated not playing outside with too much TV and games and too little PE and recess.

Not being outside playing. (Parent #1, line 17)

Not getting' enough exercise. Just like my kids, they'll go play and stuff like that. Um, that's what I think. (Parent #1, lines 26-27)

Uh, gymnastics, ridin' a bicycle, swimming, playing football, basketball. We had, we can now take our children out for recess for fifteen minutes, but we don't find the time every day to take our students out for recess for those fifteen minutes because we're on a tight schedule here at our school.

There are some schools that don't get recess at all. . . When technology came about with all these different gadgets and gidgets that they can play in the house, they don't wanna go outside! They'll tell you in a minute, you know, that they'd rather be in the house, playin' games, versus goin' outside playin' an outdoor game. (Teacher #2, lines 51-59, 116-121)

From the school's end, although we get gym usually two to three times per week, our recess is really about ten minutes is all they get, um, to be able to play outside and run around. Part of that, again, is due to the mandates that we have to do as far as instruction and amount of instructional time. So it really limits. You know, on one hand, it's great for trying to help them learn more. On the other hand, it's not great for their physical well-being. (Teacher #3, lines 31-38)

Parents were largely unaware of how many days per week their children had PE. Teachers expressed conflicting priorities between scholastic goals and the need for exercise.

Theme 5: Stress

Both parents and teachers suggested that stress, in all forms, can contribute to overweight in children. Included among the stressors they mentioned were family and school situations, violence in the community, and lack of stability in the home. Food was seen as sometimes a comforter in stressful situations, and stressful situations were seen as a reason sometimes for not being outside or active. Longer quotations are included here to provide a fuller, richer context including their thick descriptions of various stressful situations that they believe can contribute to overweight in children.

I think a lot of stress has a lot to do with it. The, the, on the body, just your whole your immune system. Stress on your whole immune system can kill you. That's my belief. (Parent #2, lines 682-684)

Yes, yes and I really think, honestly, I really think it starts from, at home. I really do because I never really realized that until my daughter, like I say, I didn't think of it because their father not being around. I was used to him not being around. They all have the same father. I was used to him not being around. I didn't think anything of it. I didn't think it affected her as much as it did. But, uh, (pause) *yes, stressful. . . they've all got their own*

personalities and stuff, but my daughter, you know, she's so emotional and so sensitive. You know, just any little thing -- someone at school said or she thinks someone said somethin' or had a way they look at her, she's bothered by it. (Parent #4, lines 487-493, 508-512)

Another thing that could be a reason that they could gain weight, or, is stress. You know, if they're going through trouble at school or situations like that, or if there's bullying or something like that, they could possibly find a way to overlook that situation by eating. So. (Parent #6, lines 34-38)

A lot of my kids have been sexually abused. Um, they've been physically abused. They've been removed from their home. Uh, (sigh) *Many of them, like I said, are in single-parent families. Um, I'd say nine out of ten kids in my class' parent, one of their parents is in jail or has been incarcerated. Um, a lot of them are blended families.Um.* (pause) *Oh, wow, a lot of them have uneducated parents. So, you know, it's hard for them to go home and get help on their homework because their parents don't know how to help 'em. Um, a lot of their parents aren't really involved. A lot of their parents are drug addicts. Gangs! Big time! Their brothers and sisters are gang members. Um, one of my students' sister is an exotic dancer. And, I mean, it's just crazy the things that they know and that they do and you're like, "Wow, how do you know that?", you know, and it's because they see these things. Um, I think some of the issues too is when their parents are not home, they can watch whatever they want to on TV. . . I mean they know about things they're not supposed to know about. And see things they're not supposed to see, and those things affect you as a kid, you know. You're actually a little adult at times. . . anger management. I have a lot of kids that are a, very explosive that just, they just, that switch flips and, I don't know. . . Um, It could be anything. It could be that they're frustrated when they don't understand, or they can't do maybe a math lesson. And it could be that maybe another kid is bothering them. . . Yeah, it's sad. It really is. . . I mean some of these kids do raise themselves. And, when they get here at 9:30 you know it's because they woke up at 9:00 and, they realized, Oh my god, I've got to go to school, and no one else was there and they put on the clothes that were on the floor and they walk to school!. . .I have one student whose dad is a, just got out of prison. He's a convicted* (pause) *He's got sex crimes. I mean, he was convicted of first degree rape twice* (pause) *you know, and that's the man raising this child! You've got to wonder* (pause) *what he's seen or what's happened to him. And he's just one of them, you know, I mean and then you have all these other kids that* (sighing heavily) *have other issues. You just deal with them one by one and try to do the best you can with 'em here. Let 'em know they're safe here. That you care about 'em.* (Teacher #1, lines 376-391, 395-397, 409-411, 415-417, 437, 944-948, 969-978)

Teachers gave many examples of very stressful situations, including violence, poverty, incarceration of a parent, and unstable homelife, their students deal with on a regular basis. The relationship between stress and overweight is documented in the literature.

> *You know, another factor I think that contributes to overweight children -- they have so much stress to deal with now. So to sooth that stress, they're overeating.* (Teacher #2, lines 88-90)

> *I had a student today who came in late and she said the reason was a neighbor who is actually another student here at the school, um, for whatever reason, police were there at the house and his family was over at her house and was up till all hours dealing with some sort of situation and she wasn't able to sleep all night so she ended up coming in late. But, that's not uncommon here. Oh, it's extremely stressful! Some of the, some of the things that these kids go through, it tears at your heartstrings. . . I think, you know, if I can provide that small piece of stability in their lives, at least I'm giving them something even if they don't learn anything from me. They just sit there and they just are a bump on a log. If I can just give them some stability in their lives, I feel like I'm doing at least a small part to help them out. . . the parents, or just talking to the students about their parents, they tend to work long hours or, even if it's not long hours, it might be kind of odd hours. It's not your nine to five kind of a job. They might work till eight or nine o'clock at night. Or some parents work the, the night shift. I have a couple of students that their parents do that and they're left all alone to babysit three brothers and they're fourth graders. Um, so, you know, can I expect a fourth grader to make a nutritious meal for his three brothers while mom's at work? Probably not. . .I have kids that mom or dad's not in the picture so they live with grandparents. Grandparents don't get them here either. They don't care. One kid missed 29 out of 45 days one nine weeks. How am I supposed to teach a child that's here that little. . . unfortunately, almost every one of them has a sad story to tell, some more so than others. But, I give them a lot of credit for being here most of the time, especially the ones that are here every day. And, um, you know, for the most part, they do their best I think. But, like I said before, you know, if your concern is what am I going to eat, or are we going to stay in this house past this month, I don't know that I'm going to care too much about* division. (Teacher #2, lines 88-90, 131-139, 144-149, 229-237, 792-796, 799-806)

> *I mean it's just really rough as far as not a stable home life. Um, just problems with the parents and fighting where it interrupts what they do. . . They're*

having to raise themselves. They really, a lot of them just do not have, you know, a normal childhood. (Teacher #4, lines 210-211, 423-424)

Theme 6: Good food costs more

Teachers voiced the perception that good food costs more and some parents voiced concern about the limited amount of money available for food.

And nutrition, I think, costs money. When you go to a store and you want to buy fruits and vegetables, they cost more than noodles or things of that nature. (Teacher #1, lines 95-97)

I think another part of it, is with the economy, especially the way it is now, um, especially in this demographic here, more people tend to, that are, I, in my opinion, that are a little bit less financially well off, tend to frequent the places like McDonalds, for example, to get that dollar menu because that's all they can afford. Unfortunately, that's also the most poorly, um, quality foods and high in fat and things like that that are on the market. (Teacher #3, lines 19-26)

I'm not really sure but it might be due to a monetary reason where they just can't afford to eat health, especially the fast food, or it boils down to the cheapest food is usually the most, or the, uh, yeah, the most unhealthy food. Um, those dollar menus, while they're great for the wallet, are not great for the body. And, um, many of the struggling families, it's all they can afford. And even at the grocery store, your cheaper items are, are typically your less nutritious, and full of preservatives and other things that are not gonna be beneficial to them. Uh, well, I think about McDonald's double cheeseburger. You can get a double cheeseburger for, you know, $1. And, you know, if you spend $5, you might be able to feed your family, but to eat nutritionally or nutritiously, um, and healthy, it might cost one person $5. Now if you're going to this store, you might be able to buy a can of Dinty Moore beef stew (pause) *for maybe $1, but, you know again, it's full of preservatives and sodium and, you know, everything else that's not healthy versus, you know, going and buying fresh vegetables and fruit.*(Teacher #3, lines 48-49, 497-515)

This, this school deals with a lot of poor families. You know, they may be working, a lot of them are working, but they're just very low income. Extremely low. So, it just is a real struggle at home. (Teacher #4, lines 397-399)

Theme 7: Too little sleep

A few teachers and one parent were concerned that too little sleep is a contributor to overweight in children because they are too tired to want to be active.

> *And making sure that you're not getting enough sleep 'cause, you know, it's very important that you sleep because you grow while you're sleepin' so and your body breaks down also, too.* (Parent #6, lines 104-107)

> *I have three different students that, on any given day, will fall asleep first thing in the morning. And usually it's because of whatever has happened at home. I mean they just have a really rough home life.* (Teacher) #4, lines 206-209

> *Now with these kids are different than we were brought up. These kids have to get up early because the parents may have to go to a job, and so they'll get them up at like 5:00. And sometimes there may be a couple that go to daycare.* (Teacher #6, lines 271-274)

Theme 8: Genetics

Genetics or family history was mentioned as a contributing factor by four of the parents and none of the teachers.

> *I have thought about it and thought about it, and when she was born, and I thought, it's like how's this kid? It's like she was gaining weight every month and she was on the same diet. Even as a baby, I could watch her and she was getting bigger and bigger in front of me. And when she was four months old, she looked like she was a year old! She's a big kid, have you seen her?. . . So. We got a mad bunch of genes on our side of the family.* (Parent) #2, lines 52-56, 512

> *I think maybe* (sniffs) *family history, where there is a parent overweight.* (Parent #5, lines 44-45)

> *I think that their everyday lifestyles. Um, for some people, it's genetics, and you can't help that, you know.* (Parent $6, lines 392-393)

If genetics is viewed as the primary cause of overweight, there may be complaisance and lack of participation in intervention programs.

Theme 9: Media influences

Teachers, but not parents, mentioned the influence of the media as a contributing

factor to overweight in children. TV commercials for fast food and low nutrient foods were seen as a driver for the food preferences of children.

> *I don't know, I mean, probably like when they're at home and they see commercials and things like that, that probably influences what they want to eat. You know, just recently, it's been commercials where they supersize everything, you know, Big Macs and French fries. And they talk about they all want to go to Incredible Pizza, you know, and there's not one healthy hardly thing about Incredible Pizza except that salad bar, you know?* (Teacher #1, lines 730-737)

> *TV is part of the problem. Yes. All the different commercials that we see on TV – it makes me hungry. But, I have learned to control that. When we have children, they see ice cream commercials come on TV. Well, they'll go to the refrigerator and get ice cream. You see all these different soda commercials come on TV, cookies bein' cooked in the kitchen and, you know, it just starts tellin' the brain that "I'm hungry", so they go to the kitchen and they start eating when they could have just finished dinner or eating the snack. So we have the tendency of listening to what advertisement is sayin' too and our kids will overeat.* (Teacher #2, lines 106-115)

> *Just the culture. I mean, turn on the TV. What are you looking at? These kids are not monitored. I mean the parents do not, no one's telling them "You can't read that. You can't watch that. It's not appropriate." You know, they do not know what's appropriate, what is inappropriate.* (Teacher) #4, lines 547-551

The literature supports linkage between marketing efforts and children's eating preferences and behaviors.

Domain 4: What should parents do to prevent overweight in children?

Most parents and teachers commented that, to prevent overweight in kids, parents should give kids the right food, be involved, provide health education and healthy relationships, and keep kids active (Table 7). Parents more frequently mentioned cooking methods and modeling healthy choices. Teachers more often said that parents should be there for their kids and parents should make sure their kids go to school.

Table 7: Themes expressed by parents and teachers in describing what parents should do to prevent overweight in children.

Domain 4: What should parents do to prevent overweight in children?		
Parent and Teacher answers included references coded to eight emerging themes:	**Number of parents**	**Number of teachers**
Give kids the right food	6	6
Be involved	5	6
Health education	5	5
Healthy relationships	4	5
Keep kids active	5	4
Be there for kids	3	5
Limit screen time	4	3
Make sure kids get enough sleep	3	4

Theme 1: Give kids the right food.

Universally, these parents and teachers volunteered that parents should give their kids the "right" food. Each respondent described the kind of foods that kids should be given or the kind of foods that should be avoided.

> *I mean, I try to make healthier meals like not too much fried stuff and not a lot of starch and a lot of vegetables and not a lot a lot of candy and chips. And I don't let her drink soda. She can have Kool-Aid and juice, but I try to push the water on her.* (Parent #1, lines 43-46)

> *and try to feed 'em the right things.* (Sniff) *Of course, just keep 'em on a balanced diet. . . . I'd push more vegetables than meat (*laughs) *if I had it to do all over again.* (Parent #2, lines 514-517)

> *And then with the population that we deal with, these children, if they get to eat, uh, it's not healthy. Most of the time it's cheap and easy, and it's junk.* (Parent #3, lines 111-113)

> *And keep, also healthy foods. Now, I don't practice that all the time because I cook things. But I try to make sure, you know, they get vegetables. I'm always cooking, we love vegetables. So we eat a lot of vegetables. And, like I say, when they get home from school, I'll have apples. They'll eat a apple, or something like that. They love cheese. So, I try to keep things, you know, to kind of balance everything out, so.* (Parent #4, lines 106-112)

> *And you know, my hours, the time I cook dinner is just so strange . . . 'cause by the time I get everybody unwound and everything because, like I say, my*

son has practice, with ball practice. My other son plays basketball, and then I go to school on Tuesday night. So we just kinda, and I just, I don't want to cook a lot. So when everybody unwind and everything, probably about 6:00, 6:30, I'll, I'll cook dinner. And like I say, now some nights, I'm telling you, we have the, uh, you know those noodles in a cup?. . . I cook and throw some noodles in a microwavable cup and whatever, (under her breath) I think there was some crackers or something like that. . . . It's just, to tell you the truth, there's so much stuff that be on my mind (laughing), I'm just trying to get 'em something to eat so they can do something and whatever, you know. (Parent #4, lines 175-176, 179-186, 190-192, 747-749)

Hectic lives create competing priorities.

And I try to keep fruit available on hand so when they come in from school, you got somethin' quick to throw in your mouth. 'Cause I realize you're hungry and I know it's been a long day, but and you want somethin', but lets throw something healthy and quick in your mouth instead of just grabbing a bag of chips or something like that. (Parent #5, lines 136-141)

Basically, just make sure they, they watchin' what they eat. They could just watch what they eat, cut out all the snacks and if they do give 'em snacks, give 'em, uh, nutritional snacks. . . . A lot of vegetables, a lot of vegetables, and steamin' your vegetables instead of boilin' em 'cause they'll boil out all the nutritional value. (Parent #6, lines 111, 114-115, 117-120)

The role of the parent has to do with just monitor the diet, the nutrition. And then they have, you know, quite a bit of control over the diet, you know, trying to fix nutritious meals and stay away from the junk food. . . .'Cause a lot of these kids, a lot of my students, they just basically fend for themselves, you know. The parents don't want to be messed with them, you know, you just take care of yourself, and so, it's just whatever. For some of them, It's probably whatever's in the house that they can eat. Um, I know for one of my students, I mean, here he is ten years old, and he's the one who has to take care of cooking dinner for his two younger siblings. (Teacher #4, lines 104-105, 108-115, 297-300)

Children fending for themselves was brought up repeatedly by teachers. Even if nutritious food were in the house, kids may not be able to prepare it.

And a healthy, healthy diet. I mean, I don't think a child could function going home and going to sleep on a empty stomach. I mean I did that before and that's not a good feeling to know that you gotta wait till you get to school in order to get something to eat. (Teacher #5, lines 336-340

If they're way overweight, they should monitor their food and start giving them different, you know, vegetables and food that's good for them and start balancing their meals out. And then for snack time, they need to start giving them healthy foods instead of just candy bars and pop (Teacher #6, lines 88-92)

Theme 2: Be involved

Getting involved was described as modeling healthy behavior, knowing what kids are doing and what they're eating. It means getting healthier with them and supporting their efforts. Several examples of how to be involved with kids are included here.

I don't know, maybe drug use, or something like that. I don't know. (nervous laughter) *I mean, I, I see kids around the neighborhood sometimes and there's a little boy in my son's classroom --- he doesn't go to school regular like he should, you know and I mean I don't know why, his parents or anything. I'll see him riding his bike up and down the street when he should be in school*. (Parent #1, lines 265-269)

Just, don't push the kid out just by themselves, you know. Don't let the TV or the video babysit for them, you know? Interact with them. Talk to them. And so, we do, even if we watching TV, we're watching it together. (Parent #2, line 110-112)

You know, and I try to work with my kids myself, 'cause, being a young mom, I started out very young and I didn't teach my kids the best eating habits. So I try to work with them now and we try to do it as a family. Ok, we need to eat this, you know, we need to make sure we get us three green vegetables, or three vegetables when we eat dinner. . . Yeah, oh yeah. She gets on me some times. She'll, (very animated) *"Now Momma, you know that that's unhealthy. And you had a bag of chips and a pop. Oh, that's just disgusting!" . . . So we work, we work together really good supporting each other, reminding each other. "Oh, did you eat a apple today? Did you eat some grapes or somethin'? Grab you a fruit. Get some fruit to eat."* (Parent #5, lines 80-85, 128-130, 132-136)

Parents are going to have to be involved and parents are going to have to know what their kids are doing and what their kids are eating. . . you have to offer them food. I'm not going to lie.When, if we want parents to come, we have to give away like chili dogs, something they're going to eat that we can afford and see that's cheap and that's easy, and they'll come for food for real. That's how we got so many people to come for Open House. But, other than that, it's real hard to get parent involvement. (Teacher #1, lines 131-133, 697-703)

> *Well, they don't get help as far as fixing the meals, um, doing homework. I mean, there's no parental support. I mean the parents, a lot of these parents, they're just like they don't want to be bothered. They don't want them in their hair, they don't want – which is a sad situation.* (Teacher #4, lines 118-122)

> *Get active with their kid. Get involved and, um, when your child is exercise, you do the same with them, or ride a bike, you know, you have to do more walking, do together things. Do things together to show the kid that they're getting healthy as well as the parent. They're both doing it together, so it's a family activity.* (Teacher #5, lines 37-41)

Theme 3: Health education

Most parents and teachers expressed the belief that parents should get educated themselves and informed about health and that they should provide health education to their own kids on an informal basis.

> *Just kind of talk to 'em about, especially about diabetes. And heart attacks. The health part. They're gonna have to really stress – that's what parents are gonna have to do. . . I'm sure any 4th grader has an aunt or an uncle or somebody that has this problem that they probly is around. And mine's around – she's around three (pause) which is on my side of the family,that's crippled with diabetes and arthritis and in wheel chairs. And she's around me – which she see what overweightness has done for me* (lifting her cane). *My knees is blown out and, you know, I can't contribute to working all the time. . . These kids aren't crazy.* (Softly) *They know what's goin' on. That's why you can sit and talk to 'em about their health and let 'em know "This will kill you if you keep doin' this same thing over and over."* (Parent #2, lines 136-138, 143-149, 450-454)

> *They're not doing things that are healthy or even being taught how to make choices that are healthy. . .* (Sighs) *I think that parents should become more informed about, well first of all, knowledge is power, in my opinion. They should become informed of what makes a healthy diet, what makes a healthy activity, how much is too much TV, they could read things and find out what should be being done.* (A police siren is sounding in the distance. He ignores it.) *And then, examine what they are doing and what choices they are making and what choices they're teaching their children to make and then decide is that the best thing to do.* (Parent #3, lines 147-148, 207-215)

> *and teaching them to, you eat to* (pause) *sustain yourself not just eating because you like something. You don't just continue to eat because you like it. You*

eat to sustain yourself. Are you full? No. No, they don't understand it. I think a lot of the way we eat as a generation, as a community, is, is how we were raised to eat, the things that we were raised on. I'm one of those people, I don't eat broccoli, I don't eat cauliflower. Is it healthy? Is that good for me? No, but I just don't eat it because mom didn't like it so she didn't cook it. I don't eat it. I don't cook it for my kids . . We know, we hear how bad the fried foods can be for us, but we think, (She makes a face) *"Oh, with no bacon. That's not gonna be good."* (Parent #5, lines 77-80, 865-870, 874-876)

Previous experiences with food and palatability of food affects food choices and willingness to change.

If I could give them a message, I would tell them, um, "I know that you love your kids, but how much do you love them? Do you love them enough to make sure that they eat their proper food? Foods, uh, make sure they get the proper exercise, make sure that they get the proper rest so that they can live long. Teach them to stay healthy. Teach them about wellness, and so they'll grow up and have those things, because they need it. I mean, because if they're not healthy, they're not goin' to be able to hold a job. (Parent #6, lines 501-508)

Well, I mean, you have to teach your kids. Um, we talked about when I was doing PE, there was like slow, no and whoa foods --- you know, and stuff like that. Um, you, you know you have to be taught at an early age basic nutrition instead of and I think it's all about choices. (Teacher #1, lines 168-172)

I think education. And, and I don't mean classroom necessarily education, but education about what is healthy and what it takes to have and maintain a healthy body. Um, I don't know, but I suspect that even some of the parents that we work with here, um, aren't really sure what that entails. (Teacher #3, lines 43-47)

Education's a big key. A lot of the parents do not understand, (pause) *you know, what proper nutrition is.* (Teacher #4, lines 196-197)

Theme 4: Healthy Relationships

The importance of healthy relationships was mentioned by most parents and teachers as a responsibility of parents. In the vignettes below, they describe various family relationships; some are presented as healthy, some as confusing, dysfunctional, or

unhealthy relationships. Lengthy vignettes are included here to provide the context of what the interviews meant by a healthy relation or the converse. Healthy relationships are seen here as a way to prevent overweight in children.

> *Yeah, these are her brothers. And she has a problem. Her mom has custody of this one. But the other two, her mom don't have custody of. The other three, just everything is confidential. They're in shelter. And, uh, that's why I* (grandmother) *fought so hard for he . . .* a*nd that's her little brother. She, oh, in fact, he go to school here so she see him every day. She goes home with me and he go home with his mom or a babysitter. They, uh, they are close.. . If she's with her daddy, they ain't home, no way. And if she with her momma, they're not home. They're always gone, somewhere or where. If she's with her momma, they're always at a friend's house. So,* (softly) *I don't particularly like that. I can't even send her homework over there 'cause it always ends up lost.* (Looks exasperated) *But, other than that, we gonna make it. Sometimes I feel like the stress is on her, but she don't show it because she's, I think she's doin' real good with it. She's, (pause) lives, she knows she lives with me, she knows she's with Grandma and Papa, but then she go with momma and dad. So, it's kinda like a little circle. And other kids don't understand her lifestyle. She'll say,"Oh, Whatever." You know, she get tired of 'em astin' her, "That's your momma?" "No, that's my grandma." "Well, why ain't you goin' home wit your – that's your, your momma over there. How come you ain't goin' home with her?" I say, "Just tell 'em that's none of their business." But she, she ain't gonna tell them that, she just gonna ignore 'em and not tell 'em nothing'. . .Well, her momma will come and pick the other little boy up, and then she goes with me. So. But I think she's handling it real well. Later on, she'll, she'll understand. That's why I took these pictures of her brothers and sisters. I had them one year. I knew the family that did have these kids. Uh, these kids were so bad she put them back in the system.* (Laughing) *She couldn't take care of them. So, I had taken them to Bible study, the Bible class and, uh, I took pictures of 'em. I said, "She might want to see her brothers and sisters later on in life. And she, she do. She ran across one of them at the basketball game. And, he knew his momma. You know, it's sad. My kids, I guess It's just so sad. I, I didn't grow up like that. I had good parents and good grandparents, and tried to raise my kids to be <u>decent</u>, so it's something that I'm not used to.* (Parent #2, lines 239-244, 285-287, 771-775, 940-965)

> *So, and I think it's very important then to learn, even in your playing and your activity I think you learn social skills as well. So, um, I let, our family goes and we do social activities together. We go to the movies or we go to concerts, or we go, you know, to the park. You know, just we do things together in a family environment. And so if the kids see us having an*

active lifestyle then they're going to have one as well. You know, where my children, they're watching daddy make changes now because I've always had problems with it since I was little and that stems from a divorce and my mother feeding my pain when I was a child, she gave me something -- candy or whatever. So it just kind of stayed with me most of my life. When my mother said, I eat, so I think that it's very important to learn to teach children how to deal with their disappointments, hurts, problems in a more positive way rather than feeding it. So, anyw--, I say all this to say my children are now watching their father make changes from choices I've been making to a more positive. So I think it's, the example is very important from parents to children . . Home alone, unsupervised, choices that are made, parents not prioritizing their child enough to make them eat properly, you know. Any more, to make them, any more if a child doesn't want to eat, they don't have to. If he doesn't want to eat that vegetable. You can ask my child here (He points to one of his sons, who is sitting on the floor beside us with his back turned) *he doesn't like green beans, but when we have them on the table, he has to eat at least five green beans so I know he's getting his vegetables. Parents just don't prioritize a lot of times. . . "Sitting around a table" is the thing. They may eat at the same time, but they're used to sitting in front of the TV or sitting in the floor. You know, I have a big family and there's nine of us so we always make sure we eat together. We may be around a table every time, but we're there together, we're conversating, we're, you know, we're having the interaction, "How was your day? What's going on?" you know, so family meals are very important. And most of the time it's "Here, quick, eat this. I've gotta go." You know, and that's, that's uh, people are not even chewing thirty times like they're supposed to. People are just inhaling their food. (Coughs) But that's kind of what I think about it.* (Parent #3, lines 48-65, 136-144, 649-659)

Now I'm home when she gets home. They'll come in and do their homework first. Everybody do their homework, and, um, it just depends on what day it is, 'cause my daughter has a therapist that comes on Wednesdays, my son has practice on Tuesdays and Thursdays, and my other son has practice as well them same days. And so, but, she'll, but, we'll come home and everybody do their homework, and they'll get a snack. Like I say, sandwich, apple or something like that. And then, usually they'll play for a little bit, that's what they'll do. My daughter, she has a friend right next door. She'll go play with her friend or they'll come over here to the house. . . I, well, I think family life, you know, having a relationship with your mom. You know, especially and with their fathers. It would be, it would be nice, in a perfect world, if both parents could be together so they could both raise their children, you know, um, it would be nice to have parents, both parents. It would be nice, you know, if the parents, if you are a single parent, if you could have be able to spend with your child. It would be nice if I didn't have to work, and, you know, but I have to. So I can't be where I

want to be in life, but if I didn't have to work so I can spend more time with them. . .It really does, it really, I can tell you, with my daughter, not with her father, you know, he lives down the street, but it's not, it's not like he's here 'cause, you know, she don't see him all the time. But it really affected her a whole lot because she was really depressed for a long time. (Softly) *But, with good health and stuff, and her therapist, and her teachers, you know, she's came a long, long ways. But, you know, and my daughter would want to eat all the, and she's little. I said, "Where's all the food goin'?" 'cause she always want to eat, eat, eat, but she's very depressed. And, her father not bein' around and there's different things like that that was, and I didn't really think it affected her as bad as it did, more than anybody, any of my, and I have three sons and a girl and my sons didn't worry me about it at all, but she did. So I guess just having good relationships, bein' around good relationships, positive relationships, bein' around positive people, not negative people, that contributes a lot, you know.* (Parent) #4, lines 326-336, 454-463, 468-484

It's just little, small things. Sometimes we'll sit on the floor and in the middle of a program, commercial break, and just do some sit-ups or do some crunches. It's little, small things that we just do. Oh, that was twenty minutes. Let's, alright, we don't have to do it all at one time, but let's just get in there and get active, do something. . Actually, those, (laughing) the two young ones are my nephews, but they say they're mine. They're like, "No, she's our mom." My sister works until 5:30 and then she gets off, so I'm here. (Parent #5, lines 150-155, 409-413)

I have one student whose dad is a, just got out of prison. He's a convicted (pause) *He's got sex crimes. I mean, he was convicted of first degree rape twice* (pause) *you know, and that's the man raising this child! You've got to wonder* (pause) *what he's seen or what's happened to him. And he's just one of them, you know, I mean and then you have all these other kids that* (sighing heavily) *have other issues. You just deal with them one by one and try to do the best you can with 'em here. Let 'em know they're safe here. That you care about 'em.* (Teacher #1, lines 969-978)

I have several students who get themselves up and mom or dad or whoever, you know, the parent is. Not the other way around like it should be, mom waking the kid up. If they oversleep, mom doesn't wake up to get them up. They just are late. So, again, they are acting as the parent in this case. It just kind of blows my mind that, you know, I assume you're not working if you're not getting up at that time in the morning so, I don't know what else precludes you getting up and getting your child to school. Um, so that, that's been a little frustrating for me working for, like I said, the first year here. Um, that is just, the burdens that some of these kids have placed upon them, I just. Like I said I, I can't imagine. And some of them come through as strong as they do, I just, I don't know if I would be one of them. (Teacher #3, lines 759-771)

You know, trying to fix nutritious meals and stay away from the junk food. 'Cause a lot of these kids, a lot of my students, they just basically fend for themselves, you know. The parents don't want to be messed with them, you know, you just take care of yourself, and so, it's just whatever. . .Well, they don't get help as far as fixing the meals, um, doing homework. I mean, there's no parental support. I mean the parents, a lot of these parents, they're just like they don't want to be bothered. They don't want them in their hair, they don't want – which is a sad situation. . . I have three different students that, on any given day, will fall asleep first thing in the morning. And usually it's because of whatever has happened at home. I mean they just have a really rough home life. . . I mean it's just really rough as far as not a stable home life. (Teacher #4, lines 111-122, 206-211)

Get active with their kid. Get involved and, um, when your child is exercise, you do the same with them, or ride a bike, you know, you have to do more walking, do together things. Do things together to show the kid that they're getting healthy as well as the parent. They're both doing it together, so it's a family activity. (Teacher #5, lines 37-41)

It just, it seems like the kids go home and there's nothing in the icebox to eat, they claim. Or the parents may be working at night so they get their own food and it's just nothing but junk food. And, uh, so, uh, if they, the factors – they need to have someone at home, a parent that would, uh, fix 'em the right kind of food instead of just, uh, you know, 'cause they're tired or something, just having to, grab a, they fix their own sandwiches. The parents don't fix it for them, you know. So they just kind of put, you know, and they just grab a lot of cookies. And they're always talking about cookies and candy and pop. They, they drink a lot of pop. . . a lot of calories. And so the main thing is to have a parent to influence them and show 'em what to, and set it right before 'em on the table. . .Uh, they, uh, even my fourth graders. They go home and take care of even little babies, you know, the little sisters and stuff. They may have like an older brother or sister, but they do the same thing. They're out doing their thing, what they, you know, out. And they come home late and they're pretty much at home by theirself. . . a lot of them are being raised by grandparents or maybe one single parent. And then we have one that is a grandmother that is the mother now and a single parent. So they just, and it's not as many, seems like, uh, more and more students that we have are just somebody's single (trails off). (Teacher #6, lines 184-198, 203-208, 294-300)

These multiple and lengthy vignettes are included to show that the idea of healthy relationships is woven throughout the interviews and not just a couple of isolated

incidents. Many convey heart-breaking situations that children face in their daily lives as they try to relate to admonitions to eat healthy and get more exercise.

Theme 5: Keep kids active

Nearly all parents and teachers emphasized the need for parents to keep their kids active and especially to encourage kids to be outside playing or in team sports.

> *And exercise* (clears throat) *she's. . When I think of exercise with kids, it's mostly playing outside, and getting to run around, and play the sports and stuff. Riding their bikes, is what my kids like to do. . . Um, you can play with them. They like to, you know, most kids like to play with their parents. So if you encourage them to, you know, go outside and play basketball with them or to go for a walk, or you can walk with them when they're riding their bikes, that helps a lot for me. Um, just tell them to do it. Go play! You know* (laughs). *My kids are outside all the time, so I don't really have a problem with that. You know, they're always, especially the boys, they're just always just running around. So, they get a lot of exercise. Um, so they ride their bicycles, and they run and play outside, and walk to school.* (Parent #1, lines 46-48, 127-133, 138)

> *Myself, I have four kids. So my youngest, he'll sit in front of the TV all day long* (laughs). *He'll eat and he'll eat and then he'll eat snacks, if I let him. But just kind of lettin' 'em, and I'll have to kind of, he likes to play, but he's one of the ones that will want to be inside all the time so I'll have to kind of get them out and keep them active. We go to the parks and stuff on the weekend and just different things like that. . . I just try to keep them active.* (Parent #4, lines 99-106, 112-113)

> *My son is into basketball. And so, we have a park right down the street from our house. We go and shoot hoops with him. We ride the bicycles. We go walking. They have me racing around the block with them, so.* (Parent #5, lines 146-150)

> *I just really think, you know, I, we just need to get more active. Our kids just, and I, I like the Health Department, they've been doing these commercials about, "Just get active. Just get up. Just get active." And it's little things of just getting up and moving around and just, but, I, like I said, I think if really we start here in the school system, and if you start 'em being more active, they'll have more energy so when they get home and they'll want to not just sit in front of the TV. They'll get up and move around because they are ready. I know, myself, some days I walk to work and on that day that I walked to work, oh, I'm flying high all day long. I'm just like, "Hey, let's get 'er done. Let's get 'er done! And, you know, because it just gets your blood to flowing good and you've got that that adrenalin goin'. So I think*

really it should start here in the schools at young of being active, being proactive about your health. Doin' exercises. There's nothin' wrong with gettin' up and doin' exercises. Get up and move around! So. (Parent #5, lines 933-947)

Well, I think first and foremost, they need to encourage kids to get outside. I remember when I was a child, you know, I would spend hours and hours outside and sometimes it would be no more than a stick and a rock. And I was, I was content. I would create my own fantasy land. That stick would be a sword to a, you know, a BB gun to whatever you wanted it to be. And now, kids growing up in this, you know, great technological age, they have everything at their fingertips, but I think that's kind of a problem. So instead of experiencing those things or using their imagination, it's already created for them. And so (pause) even all of these kids that come from pretty poor homes, almost every one of them I would say has one form of a game console, whether it's the hand held one or it's the full X Box or whatever. You know, from families that can't afford much, it's surprising to me how all of them seem to manage having one of those game consoles. . .So I think that's first and foremost to get parents to encourage their kids to get outside and play. (Teacher #3, lines 202-219)

Indigenous contrasts between how "things are now" versus how they were "back then" are common in these interviews.

Encourage them to get outside and be a little bit more physically active. I mean, I know you can't make the child to go out there (laughing). *You can't do that. But, you can encourage. (*Teacher #4, lines 105-108)

Theme 6: Be there for kids

Kids are often home alone, either because the parent is working or otherwise not available. This may be for a short time after school and before the parent comes home, or it may be for an extended time. More teachers than parents mentioned being there for the kids as a parent's responsibility to help prevent overweight in kids. Kids may not be able to go outside or may go out when it is not safe. Kids have to feed themselves or their siblings and are more likely to eat junk food and engage in sedentary activities when home alone.

And I find that a lot in today's society, uh, especially dealing with elementary students. You hear the stories, "I got home. My mom didn't get home till 10:00 or 11:00 o'clock at night" from the job or the club or wherever she was. And so they, "What was for dinner?" "I ate half a gallon of ice cream" and they probably did. (Parent #3, lines 129-134)

They can't go outside because they're home alone. I mean I have, I have very few kids that are in daycare. Maybe two? . . . So the rest of them either go home and I would probably guess that nine out of ten of them are there by themselves for a awhile, awhile. . . So, I mean, but as for when they're out, I don't know (pause) *what they do. I mean they talk about, like I had one, one kid, they're not here anymore, that the dad, the dad would leave them all weekend, basically. He'd go off and do his thing and come back like Monday. They'd have to get their own supper, come to school, and so.* (Teacher #1, lines 160-165, 936-942)

The parents, or just talking to the students about their parents, they tend to work long hours or, even if it's not long hours, it might be kind of odd hours. It's not your nine to five kind of a job. They might work till eight or nine o'clock at night. Or some parents work the, the night shift. I have a couple of students that their parents do that and they're left all alone to babysit three brothers and they're fourth graders. (Teacher #3, lines 229-235)

They need those parents there to let them know that they do care and that it's important. (Teacher #4, lines 448-449)

It just, it seems like the kids go home and there's nothing in the icebox to eat, they claim. Or the parents may be working at night so they get their own food and it's just nothing but junk food. And, uh, so, uh, if they, the factors – they need to have someone at home, a parent that would, uh, fix 'em the right kind of food instead of just, uh, you know, 'cause they're tired or something, just having to, grab a, they fix their own sandwiches. The parents don't fix it for them, you know. So they just kind of put, you know, and they just grab a lot of cookies. And they're always talking about cookies and candy and pop. They, they drink a lot of pop. (Teacher #6, lines 184-194)

Overweight could be an unintended consequence of being home alone.

Theme 7: Limit screen time

Parents and teachers believed that it is the parent's responsibility to limit the time their child spends watching TV and playing computer games. Both parents and teachers

described the effects of too much screen time. The vignette below was given by a parent who works in a school office.

> *Four or five hours a day. Easily, easily four or five hours a day. I got a kid I'm going to, the dad is tryin' to break him now. He gets up in the middle of the night to play the game. Kindergarten. How do you tell me at five years old, I wake up at 3:00 in the morning and he's sitting there playing a game? I'm not having a good understanding of that. . . when the dad is dragging him in here at 7:30 , he's* (She makes faces, rubs at her eyes, whimpers, and groans) *and you speak to him and he's like,* (She again whimpers, groans, makes faces and continues to rub her eyes.) *but he woke up from 2:00 to 4:00 and played the game and so now he's tired. And I'm just like, saying to him, "Ok, dad, come on now. You have to unplug that game. . . Take that TV out. I don't care if you have to put it downstairs or in the garage. Do something with it. Put the game up in the attic. Do something different because this is ridiculous." He's a five year old and he wakes up and plays a game for two hours every right. Every night! As a parent, I would be ashamed to tell somebody that. Me, myself, I would be very ashamed to say. If it happened once, "Do you know what this child did? I woke up . . .ok, ha ha, we're gonna laugh that one off." No, not on a continual basis that he can't function the first two hours of school in the morning because he's just grouchy and grumpy because he's so sleepy. It's what we do, it's what we work with them. Like I said, we're working with it. He's on his second week of having the game unplugged at night. Once he goes to bed, then dad goes in, takes the game control loose from it. He said the first few nights he woke up and he was in there tryin' to put it together. I'm like, "See, that's a, that's a addict."* (Emphatically) *That's a addict! You know, he was wantin' that so bad. I'm like, "HumUmm, come on now." But, the teacher has noticed a difference in his behavior, in his attitude. And I'm like, "Of course. 'Cause he's getting more sleep now."* (Laughing) *And you know, I'm telling dad, "See, you have to stay on this." And I'm telling him, "During Spring Break, don't lax, he still needs to stay on a routine of going to bed and getting up. I mean, he may go to bed an hour later because there's no school the next day, but don't let him fall back into that routine of playing a game during the middle of the night. He can't do that. You can't do that." And the dad is like, "I feel like I'm fighting a battle." And I say, "Yeah, I know. It's gotta be terrible, but it's for his benefit."* (Parent #5, lines 955-969, 975-1004)

Excessive screen time takes on a whole new meaning in some of these interviews.

> *When you're sitting there at a TV or playing a game, you're just constantly eating. But when you're at, at a table and it's set for you, you eat that portion and then you're done.* (Teacher #5, lines 436-439)

Then, uh, they'll walk home and then, the way I'm taking from the kids, what they do when they go home is watch TV or computers. (Teacher #6, lines 282-283)

Theme 8: Make sure kids get enough sleep

Parents and teachers expressed the need for parents to ensure that their kids get enough sleep. Kids who are too tired, or who fall asleep in class, they said, can't focus on school work and are too tired to be physically active when given the opportunity. Some parents expressed difficulty in getting their kids to bed on time at night.

You know, you know, I just be so tired and everybody say, "Why do you go to bed so early?" 'cause I be so tired. And I go to bed about 9:00 and I wish they would all go to bed like at 8:30. I try to say 8:30 because they'll lay in the bed but talk and talk. They all talk to each other, and then they'll go ahead and go to sleep by 9:00. So. (Parent #4, lines 616-621)

Typically, he's in the bed, 9:00, 9:30. He is one that he pretty much keep on schedule. He just go to bed and he's gonna wake up. He doesn't need the alarm clock. He gets in the bed 9:00, 9:30, he'll be up 6:10, 6:15. "Ok, let's get started." So, he's pretty general, he is. Last night, he had several pages of homework that he needed to do and so he was up till 10:30. (Laughing) *This morning, it was hard to get him up. Couldn't get him up. But he's pretty typical. If he goes to bed 9:00, 9:30, he gets up 6:00, 6:15. He's ready to go.* (Parent #5, lines 680-688)

We've noticed that a lot this year that our kindergarteners, our pre-K and kindergarteners, they're tired when they come in. And you don't have to fuss with this group to take a nap. When the teacher says, "Naptime." She can't wake them up when it's time for them to get up! They only get twenty minutes to lay down, just kind of, ok, regroup. But when it's time to wake them up, they don't want to get up because they're tired! (Softly) And I'm like, "God, I don't get it." I don't get it, but it's the schedule part of it. And they just, I don't know if it's due to circumstances out of the parent's control or just not seeing the need and the importance of when they come to school, they have to be alert. They have to pay attention so they need rest so that they can pay attention and function and be alert. 'Cause without it they're just whiny and they want to go to sleep, and they can't focus, they can't pay attention, and everything hurts, and they're sick. And, "I just don't feel good." And it's because they're tired. (Parent #5, lines 715-730)

Plenty of rest. Plenty of rest. . Because if they're tired, they can't do nothin' and they're kids. (Teacher #6, lines 130, 252-253)

Some fall asleep in class. (pause) *I have one that falls asleep, we don't, I don't know what causes him to fall asleep. I know he has asthma and all that. Something's causing him to fall asleep right in the morning. There's another one that I don't think he's getting' enough rest. So a lot of them's not, they don't look energizing when they come.* (Parent #5, lines 327-332)

Domain 5: What should schools do to prevent overweight in children?

All parents and teachers talked about the need for schools to provide healthful food and health education, and nearly all talked about the schools' need to keep kids active and provide a health program, see Table 8. Health education generally referred to classroom or curriculum and a health program was described more in terms of a fitness program. In addition, more teachers than parents thought that schools should provide family activities related to health.

Table 8: Themes expressed by Parents and Teachers in describing what schools should do to prevent overweight in children.

Domain 5: What should schools do to prevent overweight in children?		
Parent and Teacher answers included references coded to five emerging themes:	**Number of parents**	**Number of teachers**
Healthful food	6	6
Health education	6	6
Keep kids active	5	6
Health program	5	5
Family activities	2	4

Theme 1: Healthful food

All parents and teachers interviewed said that schools should provide healthy food to kids. Their descriptions of the food currently served in their cafeterias varied widely. Most, but not all, parents thought the schools were providing well-balanced meals, based on the menus that were sent home. A few teachers who eat in their cafeterias did not

think the food was healthy. Both parents and teachers commented on the new salad bar that is offered in the elementary schools.

> *I think the nutrition in the cafeteria is pretty good, you know, from the menus that they send home. I mean, whether the kids eat it, you know, that's different. But the stuff that they serve, it seems to be . . .ok. Um, most of the time they say it's alright, you know. My kids like the pizza and stuff like that, you know. And, stuff like that they'll eat, but not the more healthier food, they don't. We can't afford. I usually ask them every day, "Did you eat lunch?" They'll be like, "Yeah, we had this and this." And they do like the salad bar at lunch. I don't know what all comes on the salad bar, but I hear them talk about the salad bar and stuff, so.* (Parent #1, lines 168-170, 174-176, 357-360)

> *Serve the right foods* (pause) *and I think they're doing that. I've seen their menus and stuff. And then, so the nutrition seems to be good.* (Parent #2, lines 162-163)

> *Uh, now when they come to school, they get well-balanced meals. Of course, it's school food (laughing) so nobody likes school food. But, uh, they do get, and sometimes the food they get here is the only food they get. During the, so we send them home, with this program – so they have food for the weekend.* (Parent #3, lines 113-118)

> *In the schools, I think it first has to start in the cafeteria, what the kids are fed.* (quietly and slowly) *The meal consistencies are so off balance and so unhealthy with our kids that it's terrible. It's terrible. . . But I think it just has to be a conscious effort on everybody's level in the gym, in the classroom, in the cafeteria where we're being served. Because what the kids're being served is like sugar and starches that turn to sugar and then they're up here* (raising one arm high) *and* (slowly, in staccato) *<u>then</u> <u>they</u> <u>crash!</u>* (Her arm plunges down ominously) *and then you wonder why their brains won't function well in class, or why they're playing and they're distracted. It's because of all those, those factors and it plays into it and it's like* (shrugs shoulders) *uggh!* (Parent #5, lines 157-160, 179-187)

> (The public school system) *has, uh, pretty strict food guidelines. They don't serve anything fried. Everything's baked. Even like your fried chicken is actually baked. Um, and they open up where you have a fruit and salad bar now so and there's more choices and it used to be where you had to go through the line and take what they had (Teacher #1, lines 186-191)*

> *We are what they call universal breakfast and lunch, so every child receives a free breakfast and a free lunch. So as long as you are here on time and don't show up, you know, fifteen minutes late, you are entitled to get a breakfast and then at lunch time, they also get a free lunch. 'Cause we, we*

serve kind of a little bit poorer demographic here. (Teacher #3, lines 76-81)

A school-based program is in a position to have a tremendous impact on the nutritional state of a child who receives two meals per day and a take home pack for the weekend from the school.

I had a student the other day tell me, I've got, or we have four dollars until we get food stamps or some other type of, I don't remember what the acronym was, but it was basically some kind of check to help support their food. Until that kicks back in, they had four dollars. Um, we have a number of other students that are part of what we call the Bee Pals program and on Fridays, um, they go to the cafeteria and receive non-perishable food items because we know they're not going to be fed over the weekend. Many, or not many, but I would say a good portion of our students, the breakfast and lunch we serve them is the only time they eat all day. (Teacher #3, lines 259-269)

We have a great, I say great, sometimes great, vegetable and fruit bar. It's not part of the walk-through line, they can just go up and it's all you can serve yourself kind of a deal, but most kids don't touch it or if they do it's just for the fruit. They're not going to eat the vegetables. And even the walk-through line, each day a vegetable is served, but very few of them take advantage of that. (Teacher #3, lines 300-306)

They have a choice. Usually there's a choice of three different items at lunch. There's a sandwich, a salad, and then some other hot item. It could be a hamburger. It could be, like today, it was chicken fried steak. And then there's a vegetable to go along with it. And they're offered that. Most of them do not take the vegetable. And then there's a salad bar that they have access to. So, once they go sit down, once they've eaten what's on their plate they can go to the salad bar. So, a lot of them do go back and get a salad. Um, they drown it in dressing (laughing) *but at least they. And then they, depending on the fruit that's out there. They always have fruit out there.* (Teacher #4, lines 174-185)

Theme 2: Health education

It was universally proclaimed by the participants that the schools should provide health education. This was generally described as someone coming into the classroom to give practical guidance on what to eat and why.

Maybe a little education where our children are involved, you know. . maybe just healthy and unhealthy foods. I don't really know. That's kind of hard. Um, just basically tell them that if you eat the wrong foods, you're gonna gain weight. And as you get older, it's harder to get it off, so. That's, I guess that's what I would do. . . Just that physical activity is good for you. It helps you stay in shape and keep your body going, and you need exercise. (Parent #1, 224-225, 235-238, 243-244)

Well, overall, once they, if they can get a, a program here for kids, you know, here or wherever, and just try and teach them the fundamentals of eating and the healthwise (Sniff). *Maybe they would start to cut down, you know. It won't stop it. They're never gonna stop it. There's always gonna be overweight people.* (Parent #2, lines 859-862)

I think that it's important that they teach (pause) *I, you know, any more you're taught exercise, exercise, exercise and you're told that what you're being fed is a well-balanced meal, but you don't really know why. You don't see a lot of the education any more that used to be when I was in school twenty years ago that they taught about the food groups and the food pyramid and why this was good for you and why this was not good for you. And I don't see that, there's very little emphasis put on that. They're always saying "Eat healthy. Eat healthy." But, they don't really explain, "What does that mean?" Lots of time, you say to somebody, "Eat healthy." That means eat an apple. Well, there's a lot more to it than that. You know, I think you could educate the children and the parents more on what that is.* (Parent #3, lines 279-293)

At the schools, I think we should help, but you know you can only do so much here. That's like, people ask about character and teaching them all these other things, and you know, we'd love to do it, but there's not enough hours in the day and then we have to teach the curriculum and then you have parents that object to so many things, you know. (Teacher #1, lines 681-686)

If it was something where we had people come into the classroom and teach nutrition, if it was like, kind of on a short term basis, maybe like for an hour for a four or six week period, I think something like that would definitely be feasible. (Teacher #3, lines 481-485)

S*o I think we need to have some kind of screening process, but even with that, making the parents aware, it comes back to can I afford to give them something healthy. . . Um, and some, you know, I think that some parents just don't care that their child is overweight. They might be overweight themselves and, you know, for whatever reason, they just let the child follow in their footsteps. Um, so I think screening would be a good, good early intervention* (Teacher #3, lines 605-611)

I would like to see some sort of overall or revamping of education that does put a little more emphasis on physical activity and nutrition and health. . .I'm thinking some sort of program where they would come in for four to six weeks, an hour to forty minutes at a time. The first couple of times, lay down the foundation of how our body metabolizes food and all that stuff, and then going, you know, into some of the other factors, risks and stuff like that, I think that would be good. And, like I said, I think that that's something that would be feasible and, and, you know, would be a good part of their education. (Teacher #3, lines 706-709, 717-724)

Well, they do, we do provide some nutrition classes, information. We'll talk about proper nutrition, what they should and should not be eating. You know, how that affects them personally. (Teacher #4, lines 147-149)

Talk about the pyramid, different kinds of food you should eat on a daily basis. . . And it may be good to have a nutritionist on staff and they could talk to the kids if they're having problems or have diabetes or something, and they could get to the parents and let them know. (Teacher #5, lines 412-413, 417-420)

Theme 3: Keep kids active

There was solid agreement on the school's role to keep kids active. The frequency and structure of PE classes, as described by parents and teachers, varies between schools. Some parents were not sure how often their kids had PE. In some schools, it is nine weeks on and nine weeks off; in some it is two days one week and three days the next, or some other variation to meet the total hour requirement. Having PE every day was a common suggestion, as were more recess and more structure.

I think they also need to have gym requirements in the gym. Not just, "Oh, you come in and this is free time." When I was in elementary school, we had to do, we came in and our gym teacher had stuff planned. We had to do twenty, twenty-five jumping jacks. We had to do the sit-ups. We had to do the push-ups. You know, it wasn't just come in and play. (Emphatically) No! We had exercises that we did that helped us stay in shape and we learned. I mean, we, it was a different generation, but still. I look at the kids now, so many kids today and you say, "Do jumping jacks." and they're like,"What? What is that?" They don't have a clue what it is and so I think the gym program needs to be more structured. . .I think that the kids should be outside. They should not just be able to sit and play in the sandbox. No! Get up. I need you to move around ten or fifteen minutes.

And then you go do your play.It needs to be a concerned, a concerted effort by everybody that the kids actually get active, that they're moving around. And pull the little, chunky kid aside and, "Yes, it's hard, but get a partner. You may can't run, but you can walk. You gotta do this for twenty minutes and then you can go and have your play time." (Parent #5, lines 160-179)

Well, this school's also implemented recess. There are some schools that don't have recess, which is hard because they might be locked up all day, you know. Um, trying to think what else we do. Some schools do like jump rope for heart and things like that. We don't do that here. (Teacher #1, lines 216-220)

I think our PE teacher does pretty good. He keeps them busy and he, I mean he works them out pretty good. (Teacher #1, lines 703-704)

We do have PE. And most of the time when I ask them what do you do during that time? Most of my students say that they're sitting (pause), *due to behavioral problems. There's certain things that they can't pull out and manipulate, you know, certain materials that they have for the schools because the students are hitting each other, tossing the ball up against the window, and they're comin' in, having to be sitting on the floor and listening to, um, information that the teacher has to give them about behavioral problems. So they miss out on PE time.* (Teacher #2, lines 69-77)

Well, with things the way they are now, I don't know that there's a lot that we could do. Um, I think if there comes a time, if we revamp the education system and put a higher emphasis on physical education, then I hope we'll see more time devoted to it and kids will have a greater opportunity to exercise. Um, they get to in gym, like I said, but that's three or two times per week depending on the week because we alternate weeks. (Teacher #3, lines 354-360)

And then we do 9 weeks of PE, 9 weeks of art or music then 9 weeks of PE. (Teacher #1, lines 223-224)

Although there are state guidelines on how many hours of PE a child must receive, schools have flexibility in how they meet that requirement. A child may have PE two or three times per week, or PE may alternate with another class every few weeks so that PE is sporadic, or any other method that meets the total hour requirement. Consistency is not always provided and is needed to build good habits and a base for

increasing strength and endurance.

Theme 4: Health program

A health program was generally described as an interactive, exercise and nutrition program that would include the families.

> *Um, maybe some kind of education program or something like that. And, you know kids are kind of, maybe give 'em some kind of healthy snacks or something like that you know? I don't, I don't know. Something like that I guess. An exercise program might be good. (Parent #1, lines 430-433).*

> *A lot of kids could benefit. And a lot of them would learn. You have to learn 'em how to, you know, what to stay away from. It's kind of hard, to take somebody like me, 62 years old, and tell 'em you can't have this no more. "Huhh? Huhh?* (laughing) (Parent #2, lines 668-671)

> *I mean we've opened our track, uh, for people to come and walk, and they don't take advantage of that. We've had fitness programs in the past and unless it's going on during school hours, the students aren't involved because the parents have too much going on to get them back up here to do that program or whatever. And, uh, unless it's a program where the parent doesn't have to come. Like we have an after school program. Or the parent s who can't, need after school care.* (Parent #3, lines 521-530)

> *I've been tryin' to figure, I've been tryin' to think of a way we could do something here at the school and maybe have it open to where if the parents wanted to could come work out. But I don't know a way that we could get some equipment for the parents to work out on because just having a partner, someone to work out with you, it keeps you on track. That day that you're like, "Aihh, nayhh." It's like, "Hey, come on, let's go. We need to go get busy. Come on." It tends to make you do that. You will go farther if you have somebody to do it with you. I think if it was before or after school, definitely after school for a decent time, maybe 5:00 to 9:00 that you have something that was open or from 5:00 to 10:00 that you have something open and available for the parents to, um, work out then, they would and they could bring their kids.* (Parent #5, lines 298-311)

> *This year is the first year they have a group of people from OU, I think it's OU, that are comin' in the building. They're teaching them nutrition. They are workin' with them as far as, um, they're basically personal trainers for the students, and so, which is exciting for them, so exciting for me and especially for my daughter because she's part of this program and she just loves it. And it's like, it's basically, it's teaching them about the nutrition of why, you know, what if you drink a pop, this is what it does. And this is, you know, the effects that it has on you. If you eat that bag of potato chips,*

this is what it does. And so, it's like she's comin' in and she's like, you know, before, I could say, "Well, we don't need no potato chips, let's eat pop corn." And she's like, " Oh, I don't want pop corn." And now, "Oh, we don't need no potato chips. Don't get no potato chips. Let's get pop corn so we can eat healthy.", you know. So it's made, it's makin' a difference and I love it! They started it, I want to say they started it in January, and it's made a difference. I mean, and they work out. They show them how to do the exercises and what to do and they challenge them. "Ok, this week while you're watching TV, I want you to do twenty sit-ups." And it, and so, you know, of course, they're trainers so they tell them, you know, "I can tell that you've done this." 'Cause you're gonna have a different stamina. You're gonna be building, you know. And so it's, it's really been good. I love it. I've wished that we could have some type of program like that. I was (laughing) *telling my principal about it. "We need something like this!" I mean, we have now, I know in the last two weeks, the Health Department has started coming in and they're telling the kids about nutrition and, you know, the importance of it and stuff like that, 'cause I'm like, you have to teach the kids early, and a lot of the kids, they don't know. I didn't know anything about nutrition. I knew what my mom fixed when I was in elementary school, and I knew the things to eat. But as a kid, are you gonna choose a plate of broccoli over the French fries? No. You know, but to tell them why they should, and what this does for you and how it helps, I think it's just, I think it's great. It's, like I said, I've seen a difference in the kids and how they responded 'cause they took their blood pressure and, you know, they weighed them and showed them on the scale of what, how much you should weigh, what you weigh, you know, da da da da da. And, it's like the kids are more in tune. "Oh, wow, well, I didn't know that I needed to be at that size. Ok." So it's making them want to, and maybe it's because it's middle school, too, it's making them want to be more proactive about what they do. And it's like, "Ok, I need to do this." And ok. That's all. It's made a big difference. I know my daughter now, she's just like, in the evening, we had to go and buy the exercise ball so she could do her stuff. You know, and she's like really into it. She's like, "This makes me feel better." And I'm like, "Ok, we'll do it then." And if I see her doing it, what am I like, "Ok, get up. It's my turn. Now let me get started." So.* (Laughs) *. . .That's what we have here, I think, with the Health Department. I'm not sure what their program is called. And it may be that, I'm not sure, I just know it started in January with 'em and they come and they work out with 'em for about an hour and a half, she said. And they were, last week they showed them about smoothies, and how they could just take some fruit and yogurt and make them a smoothie and how much healthier that was for them than pop and, you know, the Sunny D drinks. And they were like, this, just see how quick you can do this and you've got you a healthy drink right here. And it's filling. And she's like,* (dramatically) *"Momma, tsk, oh, you might want to get me my own blender 'cause I'm gonna be blendin' up fruit this summer." And I'm like,*

"Ok., ok, we can find a blender." It's just made her be more, where she's like, "I never thought about doing something like that." And how quick and easy. And she's like, "In just about two minutes, you can have you a smoothie. And it then it's cold and feel good, and it will fill you up. It's healthy for you and you don't even got to worry about it." I was like, "Yeah, why didn't I think about that?" (Parent #5, lines 791-862)

Parents are more likely to get involved and support a program that their child is excited about and children are more likely to get excited about a program that is engaging and fun as well as educational. The literature confirms that.

> *Um, another way is, is putting in, uh, implementing a lot of programs inside the schools is a big A+ for me. To teach our kids how to live and how to eat and what to eat and what not to eat, you know to help 'em. We teach them everything else. I think they should have a healthy, you know, nutritional class like that. . . Wow! It takes money. You're gonna need a lot of classes, you're gonna need a lot of, yeah. How do we get there from here? Start by having more meetings with parents 'cause if that's where it starts 'cause we're teaching the kids. And, if not, puttin' it in the schools. I mean, just make it a, a curriculum, 'cause if you make it a curriculum, then they have to know it, they have to learn it.* (Parent #6, lines 143-148, 481-486)

> *I think they should have a exercise program, not just PE, but, you know, a fitness program that, that key in on keeping their weight down and a daily, a weekly intake of how much you lost to show the kids improvement. I mean PE is ok, but if you're not getting the proper exercise, you're not doing it to stay healthy.* (Teacher #5, lines 43-47)

> *Well, it could be state-wide. I mean, it could be nation-wide. Everybody has, it's just not a one program thing. I think it, it'll take a lot of different organizations getting involved. I mean I know the president wants people to get fit. And then I think it has to trickle down. So, each state is required to get their state involved in different programs. I know when I was in Muskogee we had a program where the teachers had to do a, a exercise activity to start the day off. Yes maam. And but, um, we're not doing it too much here because I don't, they don't do it like they do in Muskogee. But I, I think we really need to get involved. If the kids see the teacher s doing it, they may want to get out and get fit more.* (Teacher #5, lines 102-114)

> *And that's why I was saying the local Y, you know, getting them involved to get a program for kids versus if their, if their mom's not home yet, where they could go and work out, you know, get an activity going until someone could come and pick them up, a program like an after school program that's dealing with nutrition and activities. But I think that's what it's*

gonna take, because a lot, these kids really don't have a ride to get where they need unless it's in the school, they have a health program or a nutrition. They'd stay after school for that because they're in the neighborhood, you know. Some of them don't have cars to get to where they need to get. So I think it, it may start with opening up programs in the school, tryin to get an activity goin. That is, that's where it could start and then venture out. (Teacher #5, lines 128-140)

If it has something to do with funding, there's nothing there. They won't participate because of that. Um, It seems like our parents come when they have food and things like that. And so I don't know if we could get them involved in some physical activities and give them a snack in between? (Teacher #6, lines 162-168)

Theme 5: Family activities

Parents expressed the difficulties they have in coming to parent activities at the school. Teachers expressed the difficulties in getting parents involved.

Yeah, they do. But I'm usually so busy, you know. I've went up there for like the meetings with, um, the teachers and stuff, but we usually don't go to the activities and stuff at night. . . I don't know. (laughter) *I don't know 'cause, um, I usually work, you know, until 5:00 or 6:00. So, yeah, I'm just not working now 'cause I'm fixin to have my baby. I usually work up till then so. Usually.* (Parent #1, lines 365-371)

I know that here at (name of school)*, they do send home life skills, uh (pause) brochures that tell you, um, if you want to come to the meetings. I think they have some little classes if you wantta, if you're interested in it. Um, I think some schools should make it mandatory because if you give us a option, and, you know, we have to work and we're bus . . . I think they should, in schools, get, um, connected with the parents and doing that, seeing that more. 'Cause, like I said, obesity in our, in our kids, it's, it's on the rise, and, yeah, we need to do something about that.* (Parent #6, lines 153-158, 164-167)

You have to offer them food. I'm not going to lie. When, if we want parents to come, we have to give away like chili dogs, something they're going to eat that we can afford and see that's cheap and that's easy, and they'll come for food for real. That's how we got so many people to come for Open House. But, other than that, it's real hard to get parent involvement. (Teacher #1, lines 697-703)

Lack of parental involvement is one of the biggest challenges in school-based programs and is well documented in the literature. Providing free food is one of the more successful techniques.

Domain 6: **What barriers make it hard for some kids to participate in school health programs?**

Transportation was mentioned by all teachers as a barrier for kids, but by only two of the parents. Bullying was mentioned as a barrier for kids by four of the teachers and none of the parents. As shown in Table 9 barriers also included low self-esteem and the parents not wanting the child to participate.

Table 9: Themes expressed by Parents and Teachers in describing barriers for kids.

Domain 6: What barriers make it hard for some kids to take part in school health programs?		
Parent and Teacher answers included references coded to four emerging themes:	**Number of parents**	**Number of teachers**
Transportation	2	6
Bullying	0	4
Low self-esteem and low self-confidence	1	3
Their parents	1	3

Theme 1: Transportation

If programs are offered before or after school, kids may not be able to come. Transportation is limited by the availability of cars and other scheduling requirements. In some cases, walking is not an option due to darkness or unsafe neighborhoods.

> *There's some kids that's parents probably couldn't get 'em here on time.* (Parent #2, line 208)

> *Well, it could be, it could be, um, transportation. Like as far as them getting' here to participate, it could be transportation.* (Parent #4, lines 235-236)

Parents are not gonna get up to bring 'em to the program because they're not due to work till a certain time of day and they take other children to other bus drops for them to get picked up and go to school. If it's after school, they might not want them to be walking home alone. They might not have transportation. They might be in a daycare where the daycare may come and pick them up at a certain time and the program might be starting at a certain time and ending at a certain time and no one's gonna be able to pick them up. (Teacher #2, lines 316-324)

Before school I meant, before school, the student would have to be dropped off early. . . If it's after school, they'll have to be picked up after that program is over as where now many of our students take advantage of the bus system and even if the parent is not at home, they have a ride home. (Teacher #3, lines 471-476)

Uh, some of them, as far as having a way to get home afterwards. A lot of these students here (coughs) *excuse me, either walk home* (cell phone rings again and she pushes a few buttons) *or they're picked up. And so, the ones that would probably participate are the ones that would be picked up. So then there's the issue of having a ride for them.* (Teacher #4, lines 226-232)

Well, uh, this neighborhood? I, this, as you know, I have really,'cause like a lot of them say, "I can't make it up here." or they don't have cars and you know how it is. And maybe, I think they need to have a bus system. The school buses need to go around and if, if they doing something at the school, at least drop them off close and then that a way the parents would know they're getting the kids involved. They may not could be here, but they are at least having kids involved in the program. But all these kids walk and when it gets dark, they don't want their kids out, you know, unless there's like a bus system or somethin'. (Teacher #5, lines 158-167)

Sometimes it's not the kid's fault. They just don't have no way of going. (Teacher #6, lines 106-107)

Theme 2: Bullying

Some teachers have observed bullying, teasing, or peer-pressure that inhibits some students from wanting to participate in physical activities. The vignette below illustrates one teacher's experiences.

I think the biggest issue is, is you have bullies that might make fun of them if they are bigger or if they are not as coordinated or not as gifted in certain area. The fourth graders are getting to that age where they are concerned

about what other people think. And I can see that when we do physical things. . .We might go out to PE and, I try to get them to do something. Let's line up and have a race, and everybody that participates will get a prize. The person that wins might get a bigger prize, you know, but they know, a lot of times they know that if they just participate they'll get something. And you'll still have those two or three people who know they're gonna be so far behind they don't wanna be made fun of. And I do give them the right to pass because I don't want to humiliate 'em. Um, I try to make my classroom, though, you know, a safe zone. I don't tolerate people making fun of each other. So, if that can happen, you know, in their physical setting where they're playing, then maybe they might feel more comfortable. But, it's hard, it's hard to monitor twenty kids all day, everything they say because they may be in the bathroom and someone may say something ugly to'em, and if they don't tell us, we don't know. So it's, it's kind of hard to do that and I try to encourage my kids to be nice to each other. And try to take care of each other. This group I have is pretty good about it. They, they really try to help each other and encourage each other. . Oh, yeah. Yeah. I think because a lot of it is they're insecure about things in their own life. I mean these kids have a lot of issues and a lot of problems, and when they have a bad day, they take it out on other people. I mean it's very common here. And it's, it's, it's the strangest times. It's the kids you don't think would do it. You're like, "What are you doing?" you know. And, (pause) *you know, it's just weird who bullies who, but we have a counselor that comes in on every Friday and he does kind of like character development. And one of the things he does is bullying and, uh, so,* (pause) *we're trying, and Tulsa Public Schools does have an anti-bullying policy, so, you know, they don't tolerate it. So, we try, I try to keep it out of the classroom. And you know, and just nip it in the bud, Like we're not gonna do it, and there are consequences if someone's making fun of someone. I have that the behavior stick over there. Green is "Good", blue is "You've had too many warnings", yellow is "We're about to call your mom", and red is "You're at the office".* (Teacher #1, lines 287-304, 328-338, 340-358)

There is. There most certainly is. I mean, you've got those that are overweight, and they are very self-conscious about it. Um, they do, like I said, they do avoid certain activities. Um, and when the kids are all together, especially if they don't, I mean they do, pick on the kids, you know, call them names. We try to curtail that as much as possible but it, it still happens. (Teacher #4, lines 485-432)

Teasing and making fun of. And then it makes them feel bad where they don't want to even participate in gym and they want to sit out and make excuses. (Teacher #6, lines 84-86)

Teasing and bullying were seen as one of the principal barriers to participation in school-based programs. There were mixed feelings expressed about whether "kids will always be kids" or whether schools can effectively prevent teasing and bullying.

Theme 3: Low self-esteem and low self-confidence

Lack of confidence or low self-esteem was brought up by three teachers and one parent as a barrier for students participating in a school health program.

> *It could be all kind of things. Um, (pause) wow. It could be (pause) some, honestly as far as the nutrition and bein' overweight and stuff, some might be, (pause) maybe be feelin' low about themselves and might not want to participate in things like that. . . lot of kids may not just want to, I have family that, uh, my little cousin, she didn't want to just, she was overweight. And she didn't want to do just anything. Not, you know, go on even family functions, she didn't cause she didn't feel good about herself and she was young! And that was so, so sad. But yeah, just different things like that.* (Parent #4, lines 236-240, 258-263)

> *For some of them, I think for some of them just being self-conscious might inhibit them from participating.* (Teacher #4, lines 225-226)

> *And their self-confidence, too. 'Cause they can't, you know they have a hard time running and doing things in gym 'cause they have a hard time breathing and then, um, you know how kids kind of (pause) say something to them because they can't make, uh, and they breathe hard and, I mean, it affects them, you know, both ways with their peer pressure.* (Teacher #6, lines 75-80)

> *Then, too, the ones that are heavier set, they don't want to join because of their self-confidence. So we need to start with them being young and get them fit.* (Teacher #6, lines 107-110)

Theme 4: Their parents

Sometimes a parent simply doesn't want their child to be involved.

> *And sometimes just the parents. It just depends.* (Parent #4, lines 90-91)

> *Well, if it's at school, uh, like maybe during school time? Ok, I mean if it's during school, it wouldn't be hard for them unless a parent signs, if it's something a parent has to sign for, some may not want them to be involved.* (Teacher #6, lines 135-138)

Surprisingly, some parents of children who would benefit most from a health program will not allow their child to participate. They don't want their child to be possibly further stigmatized as overweight as a result of being in a health program.

Domain 7: What barriers make it hard for some parents to actively support school health programs?

All parents and teachers brought up issues with jobs or long hours or work schedules. All of the teachers mentioned the cost of food as a barrier for parents to support a school health program. Nearly all of the parents and teachers talked about long hours or work schedule being a barrier for parents. Access to grocery stores was mentioned by five of the parents and four of the teachers, see Table 10.

Table 10: Themes expressed by Parents and Teachers in describing barriers for parents.

Domain 7: What makes it hard for some parents to actively support school health programs?		
Parent and Teacher answers included references coded to four emerging themes:	**Number of parents**	**Number of teachers**
Jobs, long hours, or work schedule	6	6
Expensive food	4	6
Access to grocery stores	5	4
Transportation	1	4

Theme 1: Jobs, long hours or work schedule

Due to conflicts in scheduled hours or simply being too tired after work, parents in this group find it very difficult to attend school health programs.

> *Working hours and stuff like that, yeah . . But, I usually work, so, by the time you get off work and come home and cook dinner and everything, I mean, you know, you don't want to do anything else. . . And a lot of people work long hours and they don't have a lot of time to do stuff after work and school, so that's probably a, the majority of it.* (Parent #1, lines 75, 375-379, 442-444)

I try to get her to all of her stuff since I don't work. I understand though, (The loudspeaker once again makes an announcement-like tone followed by music) *you know, the other parents and stuff. 'Cause there was a time that I had to work – didn't take off for something. People claim that's not important, but I see now it is.* (Parent #2, lines 385-391)

Jobs and, you know, most of our parents are working full time jobs, or two jobs. Some of them work three jobs. And to say, "Here's one more thing." They may or may not. You know, our meetings that we have specifically for parents – our, our average attendance is two. We had a meeting last month and we had fifteen parents and we were just like, "Wow, you know, fifteen!" And that was just because we were having Bingo that night and they could win some candy. So I begged them to come out thirty minutes early and sit in this meeting for parents and they did and so it was the biggest turnout we've had in, since I've been here for three years. So, that was real exciting, but again, it's just what they prioritize. (Parent #3, lines 576-586)

Yes, because you (clears throat), *excuse me, when you have parents working two jobs, I know a mother right now who works two jobs, two full time jobs to provide for her children, and she's doing a wonderful job, but because she's at two jobs, sixteen hours a day, her children are at home a lot by themselves. So, she buys good stuff, but whether or not they eat it, you know. So, she's gone more than she's there so that makes it difficult. So when parents are working two jobs, they're not there to say, "Hey, here's a better choice to make." You know, all they can do is come home and deal with the aftermath of whatever decision the child made while they were alone.* (Parent #3, lines 429-439)

We have parents that work various schedules. I have parents that are nurses that may work 7:00 to 7:00. I have some that work the night shift that's 11:00 to 7:00 in the morning and so they're coming home just to get their kids up and get 'em out to school. We have some that work just normal shifts that are 9:00 to 5:00. It just varies. There's a big variation in what they work. (Parent #5, lines 367-372)

If they, they could have a Saturday class, you know. That could probably help out with the parents, but I, the only barrier I would see in that is the people working, you know, the work schedules and having time. So, if they put it inside the schools. You know, as long as the kids get it. Uh, I know a lot of things that I got, um, going to school, I went back in, my mom didn't get it. You know, I would teach her, so, you never know. (Parent #6, lines 203-210)

Probably, here I see a lot of people don't come to school events because they work during school hours or after school hours. . . I think, uh, to be honest with you, most of it is work. (Teacher #1, lines 440-442, 469-470)

> *I think time. You know, um, these are working parents. A lot of them, a lot of them work really odd hours or work late in the evenings And so, I think that would be one of the biggest challenges is just trying to find a time when they would show up. . . working long hours ora lot of them, and some of them work evenings. You know, I have several students whose parents work evenings and they're home during the school day. And so they don't get home 'til eleven or twelve at night.* (Teacher #4, lines 236-239, 241-244)

> *Their work. If they're working, they're probably not gonna get too involved. I mean, but, you always have to find somebody else to get involved and take child where he needs to be. I teach in Tulsa, but my kids is down there* (another town) *so I have to make arrangements in order for them, you know, to get the activities that they need 'til I get there.* (Teacher #5, lines 76-81)

These conflicts with job requirements are by far the biggest perceived barrier for this population. Whether or not the impasse is intractable is the question.

Theme 2: Expensive food

The perception among these parents and teachers is that healthy food is more expensive than fast food or junk food and that, given limited resources, parents choose less nutritious food.

> *And so, make sure that there's, I know everybody, most everybody in our population here is on food stamps or assisted lunches, so they have a struggle trying to make sure food's on the table all the time,* (His daughter gets up and begins writing on the free-standing chalkboard behind him and we hear the sounds the chalk makes on the green board.) *and so they, uh, they have a hard time making sure there's the right types of food. . . When you're on a fixed budget or certain amount of food stamps or whatever, you're going for something that's inexpensive and will last a while. You know, a lot of potatoes, a lot of chicken, and a lot of, you know, things and macaroni and cheese, they go a long way. And all this stuff is going on and they're trying to stretch it out over a long period of time and it's not always the healthiest thing. Chips are cheap so they buy chips, and white bread is cheaper than wheat bread. So they make those* (He clicks his fingers at one of the boys who quiets down.) *They make those sacrifices to, and it does affect them.* (Parent #3, lines 226-234, 253-262)

> *Like I say, I receive food stamps so I'm able to get the things I want to get, so I'm, I'm glad of that. So, but, if, if you're on assistance, I believe you can pretty much get the things that you want to get. You know, and you know, 'cause*

I work and I just receive food stamps. I don't get medical, my kids get the medical and I get the food stamps. So I'm pretty much able to get the things that, some of the things we like and a lot of the things we need, so. (Parent #4, lines 413-420)

I spend, uh, more money buying nutritional food than I do just picking up a burger at McDonalds or just buying, uh, (pause) foods that's unhealthy. Um, healthy foods, they are expensive. I would see a money issue on that because it's, it's hard for me. And with the economy now, yeah, it's really hard. It's really hard. (Parent #6, lines 291-296)

I think that they eat what's available, what's not expensive, and those things are, like we said, they're like Ramin Noodles that are 33 cents a package or, or spaghetti-o's, um, whatever that they can eat and buy in bulk. I mean, my kids, they all have a large family. So, it would be expensive to buy (pause), you know, steaks or chicken. I mean, it's expensive. I went grocery shopping last night, and I bought like a package of steaks for two people, it was like $14. And I don't see a parent paying $7 on a piece of meat for a kid. I don't think they can. Um, even with, you know, their government assistance, I just don't think that they can afford to buy expensive things like that. So, I mean, it may be that their only source of meat is from here. 'Cause you don't hear about them talk about like grillin. I never hear about them like barbequing or grilling. Ever once in awhile they'll talk about like ribs. (Teacher #1, lines 886-902)

We have a lot of parents that are on welfare, and they are shopping according to how many children they have in that household or how many relatives are living in their household with plus number of children that they have. So their budget is only gonna stretch so much. Now, instead of buying the big healthy bag of kettle potato chips, I'll go buy the big bag of Lay's potato chips because it's gonna spread more. Uh, instead of me buying the Oscar Meyer beef wieners cost quite a bit versus the 89 cents of franks that you can buy. I can go get three, uh, containers of wieners that's made of the pork versus the beef which is one package $2 and some-odd cents, where I can get the wieners for 89 cents -- which one am I gonna buy when I'm tryin' to feed five kids. I'm gonna buy the cheapest brand, the most unhealthier food, knowin' that I would like to buy this, but I can't stretch this versus this over here. (Teacher #2, lines 294-308)

Oh, I would say, for the most part, they're thinking immediate just like these kids are. How am I going to eat today? What am I going to have to do to be able to pay the rent this month? I have one little kid that the gas is getting shut off, and that was a couple of days back when it was pretty cold out. You know, what do we cut back to pay that? Does that mean we don't eat for two days? Does that mean, what does that mean? Or, you know, I assume it's going to be more than that if we're getting the gas shut off.

It's probably going to be more than two days worth of food. (Teacher #3, lines 689-697)

Well, I'm pretty sure they get their food stamps, so I mean you, if you spend your stamps right, you'll have that to supply for your kids. So I don't think supply is a problem in this neighborhood, I think maybe just goin' to get it for 'em. If they do right by 'em, they could get anything they want, but then when they get those stamps, you know, I don't think it's healthy food. You're just buying a lot of junk to – now, maybe if they could make a stipulation that the food has to be healthy food. Not a lot of Little Debbies, chips and stuff, you know. They buy a lot of junk. I see a lot of that. Not healthy stuff. Maybe they need to say, ok, if, if you get stamps, here's what you can buy. When you need cereal, what kind of cereal, just like WIC, you know, you can get this with the same kind of stuff. I think that would be a good thing. (Teacher #5, lines 225-237)

Theme 3: Access to grocery stores

Some neighborhoods have multiple grocery stores nearby; others have few or none. Availability of fresh fruits and vegetables is more limited in some areas. Supporting a health program by modeling nutritious food selections at home may be difficult.

Well, I've been there with the buses and stuff, tryin' to pack groceries on a bus and it's too much trouble, you know, especially if you have kids and stuff. So, yeah, there are some stores around, you know. Piggly Wiggly's over here. I wouldn't know, I used to live, live over here and I didn't really, I went because it was close. You know, even though I had a car, I just went because it was close and I didn't feel like getting' out in traffic and, you know, I didn't like their food choices, but it was close and so, but I usually go to other stores, you know, to get, Warehouse Market or WalMart. (Parent #4, lines 397-408)

(Slowly) *I do not think so, as far as the variety, either. I don't think that they're, we have one grocery store here that's off 66th and Peoria and that is the only grocery store until you get to 15th and Lewis. Transportation is a problem, then. And then as far as when I go, even when I shop, there's not a lot of variety. I can't find kiwi if I go to here to the store. You know, I don't see all the different varieties of apples that I might see when I go to Reasors. So that is a problem 'cause then I don't have as big a selection as maybe I might like, or you know, different stuff like that, so that does create a problem. It does create a problem.* (Parent #5, lines 505-508, 511-518)

Well, most of our kids, you know, their parents are on food stamps. And I don't know how that's really regulated now. I think that they can buy pretty much anything they want with that card, right? One thing I will tell you that I've seen. I worked at another school that was not far from here that was close to a QuikTrip. And in the morning I would see this mother go in and buy donuts and Bug Juice for their child for breakfast every morning. And this kid had an ADHD problem! And we sat down with her and we told her, we said, you, you know, this is not help. . .you know, giving him donuts and. . .it was just. . .but, she had, she could go in there and she could buy that with her food stamp card. But, they have a QuikTrip. They have Warehouse Market is on 46th and Peoria, so that's a grocery store, and then there's a, a Dollar General over or a Family Dollar in that neighborhood, but like WalMart is a big thing, 'cause like the closest one is at Admiral and Memorial, and that's not close. So, you know, I guess that one grocery store's probably there closest access to. . . and I don't know how late it stays open. I have no, I don't go over there. I don't want, I have no idea. I mean, they have a Walgreens, too but, there's, you know, when you go to Walgreens, you're not going to get fresh fruits and vegetables. But that's it. And it closes at I think it's 7:00 or 8:00. It doesn't, I mean nothing stays open late over here because it can't, you know. . .It can't because it's gonna get robbed. (Teacher #1, lines 477-503)

Fewer grocery stores are located on the north side of town because of a higher crime rate. Those that are open have more limited hours of operation than comparable stores elsewhere in the city for the same reason. Some previous grocery store buildings sit empty because a grocery store chain has moved out and no other grocery store will take that location.

I think we have just one market. There used to be, they used to have a Albertson's down the street from Clovis? So I think their nearest one is on Memorial at WalMart. And then down the street is a Warehouse Market. And that's really all they have in this neighborhood unless they go to Owasso. They can go to Walmart, like I said, on Memorial to a WalMart. . But then that's the only main store. But there's not a lot -- I don't think they even have a lot of convenience stores. Maybe they have a few convenience stores, that they could go to, but you would not get the value foods to intake there. (Teacher #5, lines 208-213, 215-218)

Theme 4: Transportation

Transportation may be a problem for parents with no car. Walking is not an option in some areas or after dark because of crime and safety issues.

> T*hey may not have transportation to get. I know, some people that I know, they walk their child to school, back and forth. Uh, one woman I know that, my son's friend, she doesn't have a car. So her son walks home. So, just things like that.* (Parent #4, lines 286-290)

> *They don't have transportation. Um, a lot of them live within, I have a kid that lives, um, down, you know where the four-way stop is down here? She walks from all the way down here every day. That's a long way. So mom's not going to walk down here. You know, I don't know if you can catch the bus. I don't know if the bus can bring you from here to here, but a lot of them don't have vehicles.* (Teacher #1, lines 442-450)

> *You just don't need to be in this area after dark. You just need to get in your car and go home. So that's probably, I mean I think that would be a big barrier. If you don't have transportation, who's gonna to walk to the grocery store and worry about if they're going to get mugged or shot or you know.* (Teacher #1, lines 510-514)

Domain 8: What other issues related to overweight in children do you think are important?

In response to an open-ended question, additional concerns about safety issues were brought up by five of six parents and four of six teachers. Bullying was another important issue for four of six parents and two of six teachers. Four teachers raised concerns about the health consequences of obesity in kids. Three teachers expressed concern that kids are growing up too fast because of family situations (Table 11).

Table 11: Themes expressed by Parents and Teachers in describing other issues that are important to preventing overweight in kids.

Domain 8: What other issues related to overweight in children do you think are important?		
Parent and Teacher answers included references coded to four emerging themes:	**Number of parents**	**Number of teachers**
Safety	5	4
Bullying	4	2
Consequences	2	4
Growing up too fast	1	3

Theme 1: Safety

Safety was a major issue for most of the parents and teachers. Concerns about safety in the home, safety in the neighborhood, and safety in the community are illustrated in the vignettes below. Lengthy quotations and vignettes are included here to provide thick descriptions and context as they tell their story in their own words.

> *They'd rather their kids played the video game and stay in the house. 'Cause even with her, yeah, I go to the park with her. I don't just send her to the park, drop her off, you know. So many drive-bys. All the gangs hang out at the parks. I think it scares the parents off. It scares me off. . .Yeah, they know! Yeah, they know.* (laughing nervously) *Yeah. Yeah, it scares them. They don't want to be out there. You know, if they, the kids would, if they'd go (*Mercifully to me, the loud music suddenly trails off and stops, although it did not seem to be the normal end of a song.) *to the park to ride their bike, I think they would, they don't want to be up there by themselves. 'Cause they're constantly lookin' around. Even she herself when she walks, her dad, her and her daddy walk the dogs to the park, she said, "Granny, there was some gang-bangers up at the park." These kids aren't crazy.* (Softly) *They know what's goin' on. . .You can't really get to know your neighbors. You feel, sometime you feel threatened. You know what they're doing next door. You, you don't want to report 'em. You don't want to be mugged during the night.* (heaves a sigh) *So you just kind of let it go on by. So, you know, but, and I keep her from, you know, she don't play outside by herself. We sit outside in the summertime and watch things, you know, watch the neighborhood. 'Cause we've been in the same old hood for 38 years. . . On Thursday nights, we have to go to choir rehearsal, so she's, she's, she's safe.* (Parent #2, lines 437-440, 442-451, 736-742, 915-916)

> *Most of our children, our children here in the school live in the same community. Um, we have probably, I won't say a percentage, but we have a large percentage of our students that in South Haven. That's a government project. So they, they stay there. So they all know each other and they're just out. I drive through there on Saturday sometimes because I'm an assistant pastor of a church over there so I'll drive through there sometimes and I'll see all, I know them all 'cause I work here at the school. I'll see them out and say, "Where's your parents?" and they're like "Well, they're gone" or, "They're in the house asleep", you know, the child's out in the yard and the door's shut. I personally have a problem with that (laughing). But some parents are a little more trusting with that than I am. Safety can be an issue, but we're duty bound here that if a child tells us something that we question, we have to report it and we do.*

So. ..They don't just come out and say, "I'm scared at home." Usually If something like that comes up, we're talking about it in a general setting, we're in a counseling class and a child might mention something, and if you're keen enough to pick up on it, 'cause they're never, generally, I'm not going to say never, generally they're not going to say, "Mr. (Teacher's name)*, I'm scared at home, I'm not safe." But, the, if you're keen enough to pick up on it*, (Aside, to a child, "That's ok.") *you can, uh, go to them afterwards and say, "Hey, you said this, and I'm wondering is everything ok at home?" And most of the time, that's when they'll tell you. 'Cause generally they don't just, you know, wear a T-shirt that says, "I'm unsafe."* (nervous laugh) *You know, you have to kind of pick up on the signs.* (Parent #3, lines 481-513)

You know, there's so much going on. My kids is always in the front. Even my son, he's fourteen, he cannot go outta the yard. So, but, I used to live over here right across the street from the school. I didn't, I just love this neighborhood. I never had no problem over here. They can, you know, like I said, they never leave the yard. Their friends come over here, my daughter has a friend right next door, but other than that, I've never had a problem over here, especially where I live at now. I know where I live now, it's not as nicer as the neighborhood was they have over here, but my kids just stay in the yard. That's just how I am. They pretty much stay in the yard unless they're with me or someone that I know. But they don't ride their bikes or anything, they ride their bikes in the back yard. But safety, I just don't, I'm just like that. I won't let 'em, 'cause you just never know. I can only speak for me, so, I have no idea, you know. . . I think the kids love to walk to school, especially mine, but I would not let them. I was letting my fourteen-year-old walk 'cause I was getting' off a little late, uh, with his friends, I said, "I'm gonna let you start gettin' out a little bit, 'cause he would always walk with his friends, but a dog had attacked him, a pit bull and I had to take him to the emergency room. But it didn't get him bad him, but it just grazed his leg, and so he won't walk no more and I was kind of leary of that. But, yeah, they would, but he would still love to walk home from school, but I just won't let 'em. But, yeah, they would, they would love, I think kids would love to walk to school. Mine do. They want to walk to school, but they can't. (Parent #4, lines 424-451)

We do, (pause) I was one of those parents who kind of don't want their kids to go outside. (In a hushed voice) Somebody might try to snatch 'em. (Emphatic) I don't want 'em to fall and get cuts and scrapes, so now that they're older we do more. . . Now, the younger ones, I think a lot of them, they go to daycare. But I start seein', when they're around 3rd, 4th, and 5th grade, go home, go in the house and lock the door 'cause they're home by themself. So you have that. Then, ok, they're not goin' outside. They're not bein' active. . . (Parent #5, lines 143-146, 482-486)

As far as the neighborhoods, I don't know. The only concern as a parent, being here for five years, we don't have a crossing guard and our babies walk across the street and the traffic is very heavy. . .That's the only, you know, safety hazard I've seen, witnessed, you know, since I've been here. . . Other than that, uh, I wouldn't advise anybody to leave their kids at home unless they're old enough and responsible enough, and even if they're old enough, if they're mentally responsible, if they know what to do in an emergency situation, so. No, I would never leave a child at home. (Parent #6, lines 270-280)

I mean nothing stays open late over here because it can't, you know. . .It can't because it's gonna get robbed or . . .you know, I mean I don't stay over here past. . .that's why I told you we have to leave [She had told me in the beginning that we would have to leave before it starts getting dark], *because it's not safe. And it's not that I, I feel scared. I don't want to be in the wrong place at the wrong time, you know. You know, and I don't want you to be over here either. And my husband would kill me You know, he's like, you just don't need to be, you just don't need to be in this area after dark. You just need to get in your car and go home. So that's probably, I mean I think that would be a big barrier. If you don't have transportation, who's gonna to walk to the grocery store and worry about if they're going to get mugged or shot or you know. Um, there's dogs that run loose, like pit. . . every, well, today I asked the students and there's twenty of them and twenty of them had pit bulls. And* (pause) *they run loose everywhere. And these kids walk, you know. I mean, to me that's very unsafe. And then, a lot of these kids talk about their parents, and dads, they have guns in the home. And we talk about gun safety. Don't touch them and things like that. So, you know, there's just all kinds of bad things that could happen up here that I never thought about as a kid. I mean, I guess I was a country kid. I was very sheltered compared to what they're going through. It's crazy. . . And, when I watch the news and I hear somebody's been shot, I'm like, Oh my God, who is it? You know? It, it worries me. It really does. I don't know. I don't know what they do. I mean (pause), I don't know. . . It's a, it's rough up here. . . Then, too,* (sighing heavily) *you've got a prison right across the katy-corner. I mean we talk about that a lot. And, um, I'm tryin to get our school to partner up with, 'cause a lot of the women have to do community service, if they could come over here and mentor some of our girls? And say, "Listen, this is not what you want to do!" you know? You don't want to end up over here. You know, 'cause, like I say, a lot of their parents are in prison, So. . . And, I don't know if you're familiar with the transfer program? A lot of these kids leave here and they go to* (another school) *which has been on the news. Yeah, who wants to go in there? Not me, I won't even go in there. It's awful. I mean, what they say on TV's true. It's pretty rough. . . It's dangerous! The kids are like, unruly.* (pause) *Just craziness. Crazy! Chaos! Like, they don't mind. They don't behave. They have no respect*

for authority. You can't, I don't know, I just don't want to ever go back there. . . (Looking out the window at 5:30pm on a winter day) *Yeah, it's not bad yet. . .I'm gonna get my stuff and I'll walk out with you that way because I don't want you to walk out there by yourself.* (Teacher #1, lines 500-524, 929-932, 958, 1031-1039, 1081-1090, 1126, 1143-1145)

This is a very rough neighborhood, and yes, after a certain time in the evening, yes, it is definitely not a place for kids to be out by themselves. Unfortunately, many of them are because parents aren't at home and so they're just left to wander and do what they please. There are gangs in the area. There have been drive-by shootings. You know, safety is definitely an issue. . .Yeah. They come to school talking about it. Yeah. I have one student who came to school and said that his daddy had gone out and killed somebody the night before. Now, whether or not that was true, I do not know. But based on that child's home life, it would not surprise me. (Teacher #4, lines 255-270)

Uh, no, with this neighborhood, it, it would probably be simple safety because, you know, the activities that they have over here. (Teacher #5, lines 126-127)

It just always seems like they're just hiding on their blocks. Physical fights with their neighbors and different things. So, it's uh, they don't feel too safe. 'Cause kids always run, you know, and some of them say that, uh, there's a lot of stealing. And some of that goes on on their blocks, too. They accuse their neighbors of getting it, and there's just always a rivalry going on. (Teacher #6, lines 213-220)

The many references to safety issues are sobering. Many children don't have an opportunity to play freely outside even if they wanted to. This is commonly reported in the literature.

Theme 2: Bullying

The vignettes below illustrate some of the concerns raised by parents and teachers about bullying, teasing, and peer-pressure and how that relates to overweight, non-participation in activities, and emotional problems.

Uh, my daughter when she was younger, she first, she was probably in the first or second grade. She had a little bit of bullying, and stuff. But I always told my daughter, "God makes everyone different. And just because he made them like that, you're like this, you know, and you have to, you know,

accept yourself for who you are and I tell her she's pretty and stuff like that, you know, and just really try to up her self-esteem about herself and she doesn't have a problem with it anymore. I mean she doesn't hardly say anything about it anymore. Yeah, it was a problem at first. . . I mean really, the teacher, I mean if she just sees it happening, she could intervene or whatever, but I mean kids are gonna be kids, you know, so. There's not really a lot. I mean parents could teach their kids that all people are different, you know, and that might help, but I doubt it. (Parent #1, lines 393-405)

Yes. Oh, a lot. Oh, yes. Like I said, my cousin, uh, my cousin had such a hard time with her daughter, just getting her to school. I don't know what happened, but she wasn't going to class because she's very mature for her age, and she, uh, blossomed (she uses her hands to indicate developing breasts) *real early, and, but at the same time she was* (pause) *chunky and everybody always, I guess the kids talked about her to the point that my cousin had to go up there every day, take off work every day because she wouldn't, she'd get to school, but she wouldn't go in to class. Um, and the teachers and counselors, she wouldn't tell them why, but there was some kids that were talking about her for a long time and she'd gone into a real bad depression because she missed a whole, whole semester of school. She wouldn't go. So, yes, a lot of it, so much of it, yes.. .Well, you know, I think it would be really, and it might not have anything to do with nutrition, but I think it would be good for schools, schools which, we talked about, as far as when you are, like, overweight and getting' teased, you know, I know the counselors there , but I just think it would be more (long pause) I guess, um, I guess have programs for stuff like kids that are gettin' teased or that are overweight, just, you know, in general have programs that talk to the kids because it's not getting' better. I think it's just gettin' worse. . and it's sad. I, like I said, because it kind of bothered me too when my friend was, you know, just dealing with things with her kids, and her daughter, my cousin, was dealing with things with her daughter for a long time and just because, you know, she was overweight. And, you know, for the longest, you know, she, I don't know, but it was such a mess, but we didn't know what was going on, but she was, a lot of kids were teasing her a whole lot because, like I said, she blossomed* (gesturing with her hands to indicate the growth of her breasts) *blossomed a little faster than the other girls. She was just a little bigger, heavier than the other girls was, so she just missed a whole bunch of school for that. It got to the point where she had to get counseling and home school for a while. But now she's back in school so, you know, feelin' good about herself, but just classes like that.* (Parent #4, lines 266-279, 623-631, 652-665)

I know as kids, kids can be rough on kids. . . I do. I, It's, it's an issue that I see more of than (pause) than I have in a long, long time, but it's becoming a really big issue. I see it because of their weight, (pause) their smarts, or

you know, their intelligence level. I've seen a lot of the bullying, I've noticed that. I've went to a training. I've went to two trainings on bullying this year. I've never felt the need to do that before. And this year alone, I've went to two because it's such an issue. And I was just talking to some girls the other day, some fifth graders, and part of the problem is a couple of the girls are on the heavier side and then there's the "cute" girls because "they're skinny" and "I want to fit in, and I want them to be my friend, but they don't like me because I'm fat" and Oh, my God. And I've never, never felt the need to, to do this type of training, but this year, and I have another one coming up, it's just become (pause) I don't know, it's really kind of scared of me because I know my daughter was on the heavier side here, and she went to school here as 3rd, 4th, and 5th grade, but I never, I never, she never, and she's very open and talks to me, and she never had these kinds of problems, and to see this girls, and "Oh, I want to be skinny like so and so" and, you know, that's what's portrayed on TV. . . And, "I want you to be, I want you to be healthy." And that's what I tell my kids. "I want you to be healthy." So, if you're a size, you may not be a size zero, like some people, but I want you to be healthy at whatever your size is, I want you to be healthy at that size. But I've seen it so much lately and it's kind of scary and I'm just like, "Oooh." I feel bad for them because I know myself, as an adult, the limitations I have because I'm overweight, so as a chile (pause) *I just, it's a scary thought. I'm just like,* (in a whisper) *"Oh, God." So, I do see the bullying. I see it more with the girls than with the boys as far as the image and their self awareness of their self. Yeah. Fourth, I see it in fourth and fifth grade. That's what I've noticed it in lately. . .It's scary. And yet I know I watch them and girls can be so cruel.* (Slowly) *So cruel. And so mean. I don't know, I ask them, "When you say that, when you do that, do you think about how that other person is gonna feel?"* (In a child-like, high voice) *"No, no." And I'm like, "And you just do it without thought to how it's gonna make that person feel, then it's so cutting and hurting and damaging to 'em." But, I've been working with them, I've been tryin' this little program. Part of this, my training that I went to, to talk with them about it and just to give them a different outlook and be positive about yourself, and teaching them that it starts with you. If you don't feel good about yourself, then nobody is gonna see the need to, "Oh, ok, you're a good person." So you gotta be positive about yourself. But, yeah, it's really bullying.* (Parent #5, lines 124=125, 421-466)

Kids will be kids and they'll say mean and hurtful things that they don't necessarily mean, but just, just like it is when you're an adult and somebody says something that you perceive as hurtful, you're going to feel hurt regardless of what the other person's intent was, so. Um, I haven't, in what I've observed, I haven't noticed any overwhelming bullying based on weight or overweight. (Teacher #3, lines 194-200)

I mean, you've got those that are overweight, and they are very self-conscious about it. Um, they do, like I said, they do avoid certain activities. Um, and when the kids are all together, especially if they don't, I mean they do, pick on the kids, you know, call them names. We try to curtail that as much as possible, but it, it still happens. (Teacher #4, lines 485-492)

Bullying sometimes came up in the context of barriers and sometimes in other issues related to overweight in kids. It was sometimes seen as a viscous cycle because overweight led to bullying which led to withdrawal from physical activities which led to more sedentary activities which led to more bullying.

Theme 3: Consequences

The health aspects and risk factors associated with overweight were of great concern, as expressed by teachers and parents. Diabetes was the most frequently mentioned consequence of overweight.

I don't think the kids understand like the consequences of eating all that candy or eating all the chips and stuff like that. Like, my daughter, it runs in our family for most of, most my mother's, um, siblings and stuff, they're kind of overweight. And her father as well, he's overweight. And so, it kind of is genetic where she is concerned. And so, you know, when I see her and she's eating the candy, I try to politely tell her, you know, you don't, you know, that's enough , you know, or she likes to eat a bunch of chips and stuff when she gets home from, from school and I'll give her small portions, you know. And start 'cause you don't want to be mean to them, (laughs) but, you know (sighing) just nicely tell them ok, you can't be eatin like that because, you know, you're gonna get overweight. That's what I do, anyways, with my daughter. But, she understands, you know, now that she's getting older, the consequences and stuff and she'll say she wants to go on a diet and stuff, and eat healthier food, and stuff, and she does try. Um, that's really, I mean, I just don't think the kids understand what eating all that candy and stuff would be so . . .'Cause it will affect the kids for the rest of their lives, so, you know, you have to teach them how to be healthy early so that way hopefully they'll grow up and still have those values, you know. (Parent #1, lines 186-200, 446-448)

Ohhh! Other issues that are important in overweight children would be their health. Overeating, they could have heart problems, um, lung problems, um, kidney problems if they're drinking excessive pop, not the right, uh, fluids. Oh, it could be serious problems, a lot of heart problems. . .If

they're, if they're overweight, they'll be too tired to take the test, you know. It's just a lot of things, makin' sure your kids are healthy (pause) *and so they can stay focused on school.* (Parent #6, lines 213-217, 256-259)

And I think we're gonna see a higher number of young people with diabetes in the future because they're eating too much starchy foods, especially in the schools. (Teacher #2, lines 242-244)

I'm no expert but I've heard about childhood diabetes and other things. I actually personally have a nephew that is eight and he is, how, I've gotta say he is 120 pounds. He is enormous. Even as a little guy, he was probably that wide (illustrating a width of about three feet with his hands) *he's just always been a large kid. So, I just saw him recently for the first time in a while and, I mean, he was already breathing hard at eight years old. Not exercising, just sitting there. And, you know, I have to think that that's got to be hard on the heart and over time, is gonna cause problems with the heart. And, um, I don't know exactly how cholesterol works with children, but I assume if we're eating the bad stuff and we're at risk for obesity and other potential health problems due to that, I can only assume that that's gonna compound our problems, you know, kind of early in life where we might see people start having heart attacks, you know, in their late twenties, early thirties, more so than, you know, we did twenty or thirty years ago. So, um, those are a couple of things that I can think of, but I'm sure there are a number of others.* (Teacher #3, lines 627-646)

Diabetes and high cholesterol and heart problems. (Teacher #5, line 86)

N*ot getting the right kind of food. I mean they could eat a lot of good food, you know, and eat as much as they want until they are full, but when they get fattening food and things like that, chips and just nothing but sweets, I mean that could cause diabetes, too. . and, uh, their health and they're just not getting the right kind of vitamins and it puts weight on them as well.* (Teacher #6, lines 57-64)

Theme 4: Growing up too fast

Three of the teachers and one of the parents expressed concern that kids are growing up too fast. In some cases, they have adult responsibilities and deal with adult issues. Their freedom to run and play as a child may be limited by their situation.

And that carries over into academics. It's like, well how can I expect them to care what 12 divided by 2 is when they're worried about how am I going to eat tonight? Priorities. t's called Maslov's Hierarchy of Needs and, you know, I'm worried about food and shelter first and foremost. If I don't

have those, I can't really worry about the next thing. It makes my job hard, and I'm sure as a dietitian it would also make it hard to get them to pay attention and focus on eating healthy when they just want to eat, period. (Teacher #3, lines 549-557)

A lot of these kids, a lot of my students, they just basically fend for themselves, you know. . . Well, they don't get help as far as fixing the meals, um, doing homework. I mean, there's no parental support. I mean the parents, a lot of these parents, they're just like they don't want to be bothered. They don't want them in their hair, they don't want – which is a sad situation. (Teacher #4, lines 112-113, 118-122)

They're having to raise themselves. They really, a lot of them just do not have, you know, a normal childhood. . . I mean a lot of these kids are dealing with grown-up issues. (Teacher #4, lines 423-424, 494-495)

Well, I mean, when you don't have the basics covered, you know, then, uh, (pause) *you're not going to get anywhere else with it, unfortunately. Uh, and then like I said, these that go home and take care of siblings, you know, they've become the adult in the evenings.* (Teacher #4, lines 505-509)

Even my fourth graders. They go home and take care of even little babies, you know, the little sisters and stuff. . . and they're pretty much at home by their self. (Teacher #6, lines 203-204, 207-208)

This issue came up repeatedly, but is rarely reported in the literature as being related to overweight. Stress may be the underlying issue.

Chapter Summary

Findings within each inquiry domain, as summarized in Tables 4-11, include levels of agreement with individual statements that were evaluated by principals on the survey and comments volunteered by parents and teachers in response to open-ended interview questions. Summary findings for Domain 1, "How would you describe a healthy lifestyle for children?", included a strong consensus among principals, teachers, and parents that a healthy lifestyle for children includes healthful food and being

physically active. According to one parent, “The main thing is to eat healthy.” Another said, “Oh, active! Definitely active.” All but one of the principals agreed or strongly agreed that “Getting enough sleep” is important to a healthy lifestyle for kids, and the need for an adequate amount of sleep was brought up by two thirds of the interviewed teachers, as well. Nearly all of the principals agreed or strongly agreed that “Healthy relationships” are important to a healthy lifestyle for kids; healthy relationships were mentioned by one third of the teachers and one of the parents. Half of the teachers talked about the need for feeling safe as a part of a healthy lifestyle. Safety was not included in the survey questions for this domain and also was not mentioned by parents in this context, although parents did talk about safety issues related to contributing factors to overweight and as an “other” issue related to overweight in children.

Summary findings for Domain 2, “What does overweight in kids mean?”, included references to appearance, body mass, things that overweight kids can’t do, and remarks about prevalence of overweight. Two thirds of teachers and more than 80% of parents referred to appearance with comments such as “You can look at ‘em. . .she’s a big girl, have you seen her?” Descriptive terms included “big”, “thick”, and “big-boned.” All of the teachers and half of the parents referred to body mass. More than 80% of the teachers and half of the parents mentioned things that overweight children can’t do, such as “difficulty getting down on the floor, running” and “can’t bend over and pick up a pencil.” A teacher remarked, “I’m starting to see more and more children that are not fit and very unhealthy.”

Summary findings for Domain 3, “What are some of the things you think could lead to overweight in children?”, included eight emerging themes. Junk food and/or fast

food was mentioned as a contributing factor by five of six parents and five of six teachers, and 34 of 36 principals agreed or strongly agreed that junk food/fast food could lead to overweight in children. Ninety-seven percent of principals agreed or strongly agreed that sedentary lifestyle could lead to overweight in children and sedentary lifestyle was mentioned as a contributing factor by all of the interviewed teachers and a third of the parents. Ninety-four percent of principals agreed or strongly agreed that too much TV and game time could lead to overweight in children. Two thirds of teachers and half of the parents talked about too much TV and too much game time as a contributing factor to overweight in children. More than 80% of the teachers and a third of the parents were concerned that "not playing outside" contributes to overweight in children. Stress was brought up by two thirds of the teachers and half of the parents. More than 80% of the teachers believed that good food costs more and that contributes to overweight in under-privileged children. Too little sleep was identified as a contributing factor by half of the teachers and one of the parents. Genetics was not mentioned by any of the teachers, but was mentioned by two-thirds of the parents and more than 80% of the principals agreed or strongly agreed that genetics can lead to overweight in children.

Summary findings for Domain 4, "What should parents do to prevent overweight in children?", included eight emerging themes. "Give kids the right food" was voiced by all of the parents and all of the teachers, and 97% of the principals agreed or strongly agreed that parents should provide healthful foods. A parent remarked, "So much stuff that be on my mind, I'm just trying to get 'em something to eat." All of the teachers, more than 80% of parents and more than 90% of principals thought that parents should "be involved." "Health education" was suggested by more than 80% of parents and

teachers as a role for parents. Parents should provide “healthy relationships” was mentioned by five of six teachers and four of six parents. Parents should “keep kids active’ was identified by two thirds of teachers and more than 80% of parents. Ninety-seven percent of principals agreed or strongly agreed that parents should keep kids active. Half of the interviewed parents and move than 80% of the teachers said parents should “be there for kids.” A teacher commented, “There’s no parental support. . . these kids basically fend for themselves.” Half of the teachers and two-thirds of the parents mentioned it is important that parents “limit screen time.” According to a parent, “Don’t let the TV babysit for them, you know? Interact with them. Talk to them.” Eighty-nine percent of the principals agreed or strongly agreed that parents should set limits on “screen time (TV, computer, games) for kids. Two thirds of the teachers and half of the parents mentioned that parents should “make sure kids get enough sleep.”

Summary findings for Domain 5, “What should schools do to prevent overweight in children?”, included five emerging themes. All of the parents and all of the teachers believed the school should provide healthful food and health education. Ninety-seven percent of the principals agreed or strongly agreed that schools should provide food that meets nutritional standards and 80% agreed or strongly agreed that schools should include nutrition in the curriculum. A teacher remarked, “Every child receives a free breakfast and a free lunch.” A parent said, “Sometimes the food they get here is the only food they get.” All of the teachers and more than 80% of the parents talked about a need for the schools to “keep kids active.” Eighty-three percent of the principals agreed or strongly agreed that schools should provide PE classes every day. A teacher commented that, “Some schools don’t have recess.” And a parent said, “We need gym requirements,

not just free time." All of the teachers and more than 80% of the parents believed that the school should provide a health program. Eighty-six percent of the principals believed that schools should participate in health programs designed to reduce overweight in children. Two thirds of the interviewed teachers believed the schools should provide family activities related to overweight prevention; only one third of parents agreed.

Summary findings for Domain 6, "What barriers make it hard for some kids to take part in school health programs?", included four emerging themes. Transportation was mentioned by all of the teachers and by one third of the parents. Half of the principals agreed or strongly agreed that lack of transportation is a major factor in the ability of students to participate in school-based nutrition programs. A teacher commented, "Sometimes it's not the kid's fault. They just don't have no way of going." Two thirds of the teachers talked about bullying as a barrier, and a teacher remarked, "I think the biggest issue is you have bullies that might make fun of them." Half of the teachers and one of the parents identified "their parents" as a barrier for children Sixty-two percent of the principals agreed or strongly agreed that lack of parental involvement discourages children from consistently participating in health programs. A parent remarked, "And sometimes just the parents. It just depends."

Summary findings for Domain 7, "What makes it hard for some parents to actively support school health programs?", included four emerging themes. All of the teachers and all of the parents talked about jobs, long hours, or work schedules as a barrier to parents participating or actively supporting school health programs. Sixty-one percent of the principals agreed or strongly agreed that working two jobs or long hours prevents parents from participating in school health programs. One parent commented,

"By the time you come home and cook dinner, you don't want to do anything else." Expensive food was identified as a barrier for parents by all of the teachers and two thirds of the parents. Said one parent, "I spend more money buying nutritional food than I do just picking up a burger." Access to grocery stores was mentioned by more than 80% of the parents and two thirds of the teachers as a barrier for parents. One parent remarked, "I've been there trying to pack groceries on the bus, and it's too much trouble." Another added, "Nothing stays open late over here. . .because it's gonna get robbed." Transportation was thought to be a barrier for parents by two thirds of the teachers and one of the parents. About half of the principals agreed or strongly agreed that lack of transportation is a major factor in the ability of parents to participate in school-based health programs.

Summary findings for Domain 8, "What other issues related to over-weight in children do you think are important?", included four emerging themes. Five of six parents and four of six teachers talked about safety issues. A teacher commented, "This is a very rough neighborhood. . .not a place for kids to be out by themselves." Bullying was an issues for four of the parents and two of the teachers. According to a teacher, "Kids can be rough on kids. . .it's becoming a real big issue." Health consequences were mentioned by two thirds of the teachers and a third of the parents. A teacher commented, "I think we're gonna see a higher number of young people with diabetes." Three teachers and one reported that these kids are growing up too fast, fending for themselves and siblings. According to a teacher, these kids are "having to raise themselves. . .take care of little babies. . .at home by their self."

On the survey, principals were asked a series of questions about "As an elementary school principal, what can I do?" Forty-seven percent strongly agreed that they could "take a leadership role in preventing overweight in children." Seventeen percent strongly agreed they could "set policy related to prevention of overweight in children." Thirty-six percent strongly agreed they could "influence policy related to prevention of overweight in my school." Eleven percent strongly agreed that "prevention of childhood overweight is within my sphere of influence." Forty-two percent strongly agreed that "my school participated in a school health program designed to prevent or reduce childhood overweight." Forty-two percent strongly agreed that "I would like for my school to participate in a school health program designed to prevent or reduce childhood overweight." According to their self-reported stage of change assessment, none of the surveyed principals are "not ready to think about it yet," 36% of the surveyed principals are beginning to think about the issue, 14% are making a plan, 36% have a plan and are taking action, 14% are measuring results and seeing ongoing progress, and 3% "do not think this issue is an important part of my role."

CHAPTER V

CONCLUSION

This research adds key stakeholder perspectives to the body of knowledge on childhood overweight contributing factors, roles of the parents and schools, and barriers to participation in school-based overweight prevention programs. It adds depth and texture to our understanding of a complex issue by giving voice to stakeholder groups whose views are under-represented in the literature. This data is needed to ensure that implemented programs are supported by the key stakeholders and are sustainable over time.

The conclusions will be discussed in the following order: high level summary results and issues from each data source and the triangulation of data sources, followed by ties to the research questions for the survey and the interviews, then triangulation results, limitations, implications, and future directions.

- Quantitative Measures – Summary Results from Principals Survey
- Quantitative Measures - Methodology Issues
- Qualitative Measures - Summary Results from Parent and Teacher Interviews
- Qualitative Measures - Trustworthiness of Data Issues
- Triangulation - Summary of Triangulation of Data
- Triangulation – Triangulation of Data Sources Issues

- Quantitative Measures – Research Questions
- Qualitative Measures – Research Questions
- Triangulation of Data – Results
- Limitations of Research
- Implications for practice and policy
- Future Research Directions

Quantitative Measures

Summary Results from Principals Survey

The attitudes and beliefs about childhood overweight that were expressed by the principals can be a valuable source of information for program developers. Although there was a strong consensus on the influence of nutrition and physical activity on childhood overweight, there was less agreement about the other factors and the role of the parents and the schools in addressing the issue.

An encouraging finding for school health program developers was the readiness for change data. None of the principals indicated they were in the pre-contemplation stage of change, not ready to think about it yet, and only one principal responded "I do not think this issue is an important part of my role." A high response rate (61%) to the Principal Survey indicates that these elementary school principals are interested in the topic, and their self-assessed stage of change indicates that they were, for the most part, at least in the contemplation stage, beginning to think about the issue, and some were making or implementing a plan or already measuring ongoing progress. Where they needed help was understanding how they can influence the process and determining the

appropriate role for the parents and the schools. To our knowledge, readiness for change among elementary school principals, on the issue of preventing overweight in children, has not been previously reported in the literature, although parental readiness to change for overweight children has been assessed (Rhee, DeLago, Arscott-Mills, & Davis, 2005). Parents were more likely to be in the preparation/action stage of change if they had an overweight child or a child over eight years old, and they believed their own or child's weight was above average and a health problem. Whether a similar set of predictors exists for principals is not known. Stage of change for this study was established by self-report of the principals.

Quantitative Measures - Methodology Issues

The survey process was essentially sound although improvements could be made in the budget projections, in the survey design, and in the process. The survey was designed to fit on the front and back of one page so completing it would not be perceived as a daunting task. That goal, together with the IRB's requirement for a paragraph explaining that the principal is not required to fill out this survey, constrained the amount of available space. More white space, larger fonts, and more explanation of some of the terms would be improvements.

The ranking question did not present a problem in the pretest/validation; however, it was apparently confusing to a number of the principals who participated in the survey. Rather than doing a rank order as requested, some principals ranked more than one factor as equally important in contributing to overweight in children. Rank order questions are often not interpreted correctly on surveys, but given that this target audience was professional educators and they were instructed to use each number once and only once,

we had anticipated a higher percentage of respondents correctly performing a rank order task. Of the 36 respondents, 20 did an actual rank order and 16 designated multiple factors with the same rank. Analysis of ranking data is extremely difficult given a large number of invalid responses (Warde, 1990).

Qualitative Measures

Summary Results from Parent and Teacher Interviews

Comparing and contrasting the data from multiple sources highlights challenges and opportunities. Areas of opportunity include those where there is consensus across stakeholder groups. Challenging areas and areas of opportunity are those with no consensus, just different perspectives. There was broad support among parents and teachers for the schools providing nutritious food, providing health education and a health program and keeping kids active by providing physical education classes every day and providing recess during the day for outside exercise and play (Katz, 2009). It was also considered important by parents and teachers that parents, too, provide health education. Children should be receiving the same health messages at home and at school.

Qualitative Measures Methodology Issues

Trustworthiness of Qualitative Data

As outlined in the Methodology section, the criteria for credibility, transferability, dependability, and confirmability provided a means of assessing the trustworthiness of this research. I did not demonstrate prolonged engagement. It was not part of the research design. Persistent observations are essential to qualitative research and we were

immersed in the data. It was a time-consuming and intense process of both manual and software-assisted analyses. Triangulation of sources provided a variety of perspectives on the research topic. The attitudes, beliefs, and perceptions of barriers to participation in school-based overweight prevention programs were highlighted. Some were congruent and some stood out in stark contrast for parents, teachers, and principals. I was able to demonstrate, through thick description and purposive sampling the specifics of context to allow others to determine to what extent this data may or may not correspond to their own situation. My field notes documented subject position, or bias, and emerging insights. The audit trail attested to the level of dependability of the study. The elements of the confirmability audit demonstrated the extent of neutrality or objectivity in the research. We needed to be vigilant about performing the requisite activities and documenting our actions, thoughts, and decisions, and by adhering to these guidelines, the trustworthiness of the research may be discernable to others.

As a member check, I created a narrative portrait and invited one parent and one teacher to review and comment on his or her portion of the narrative. Triangulation of data sources increases the accuracy and credibility of findings (Patton, 2002, pp. 93, 306, 555-566). The data were examined for consistency and combined to increase the level of rich, robust and comprehensive information. We were responsive to evidence of saturation and remained open to emergent design.

Summary of Triangulation of Data Sources

There was broad agreement across principals, parents and teachers that healthful food and daily exercise are important to the health of children, that fast food or junk food

can lead to overweight, and that parents should limit screen time and keep kids active by encouraging them to go outside to play (Katz, 2009). These areas of consensus can be springboards for building rapport in intervention programs.

Triangulation of Data Issues

Triangulation of data sources included comparing and cross-checking the consistency of information obtained from different sources. The idea that triangulation in a social sciences context leads to a 'holistic' account where all the 'gaps' are filled by additional methods/data sources is, arguably, a stretch of the land surveying metaphor (Massey). Given that I had a limited number of interviews, triangulation, in this context consisted of checking for consistency and comparing data obtained by interviewing people with different perspectives and points of view.

An emerging issue in this data was understanding the context and life situations of the students whose parents and teachers were interviewed is challenging because the concepts of family and single parent are neither clear nor consistent and they change depending on context. A parent might consider herself or himself as a single parent in one context, but refer to a spouse in another context. Self-proclaimed "single parents" may be separated, never married, or raising a grandchild alone or with a non-participating spouse while neither or both of the child's parents are living. They may be raising a child alone or have shared responsibilities with another person who may or may not live nearby. Extended families, in some cases, may be "raising each other's children." As an example, one of the parents I interviewed had nephews who lived with her and called her "Mom" even though their mother was nearby and they saw her regularly. Another student lived

with her custodial grandmother although both of her parents were living in the same town. There may or may not be the traditional shared residential space, emotional bonds or support relationships within these family dynamics for this population.

Quantitative Measures - Research Questions

Attachment J, page 205, summarizes the frequency distribution of the principals' responses to statements that relate to the research questions. There are many demands on the time available in the elementary school curriculum and of those projects that require classroom time to implement, the ones with the highest perceived priority are most likely to be squeezed into any available timeslot. Nutrition programs often must compete for time with other community-awareness programs such as fire safety, drug awareness, and other important messages for children when the curriculum is already full with state mandated programs and testing requirements in addition to the normal curriculum. Many schools often skip recess because there is no time in their over-crowded agenda. Assuming principals will act on issues with which they are in strongest agreement, the following comparisons include the percentages of principals who answered "strongly agree" for statements on the survey. If a principal has a passion for an issue, it is much more likely to be accepted and supported. The data were examined for very strongly agree responses.

1. What are the attitudes of elementary school principals in the Tulsa Public Schools regarding factors contributing to child overweight?

The principals have a strong consensus that multiple factors can lead to overweight in children. More than 80% of the principals strongly agreed that the following factors can lead to overweight in kids (Sutherland et al., 2004): sedentary lifestyle (86%) (S. E. Anderson et al., 2008) , sweetened beverages (81%) (Spear et al., 2007), excessive screen time (83%) (S. E. Anderson et al., 2008), fast food (92%), high fat foods (89%). A little more than half of the principals strongly agreed the following can lead to overweight in children: food preparation methods (56%), dysfunctional family relationships (58%), genetics (58%) (Bar-Or et al., 1998). Only one third of the principals strongly agreed that socio-economic status can lead to overweight in children and 72% strongly agreed that low parental involvement can lead to overweight in children.

To counter-act these potential causes of overweight, principals had a strong consensus of "strongly agree" with what parents should do, but much less consensus of strong feelings about what schools should do. There was a strong consensus of principals who felt strongly that parents should do the following: take a leadership role in preventing overweight in children (78%) (Howard, 2007), be role models for healthy lifestyle (86%), keep kids active (83%), support kids' efforts to be healthy (89%), provide healthy foods (83%), (Howard, 2007) set limits on "screen time" (TV, computer, games) for kids (97%) (S. E. Anderson et al., 2008). The principals agreed with Sutherland (Sutherland et al., 2004) that the child's home has the most influence on a child's physical activity and eating behaviors and that schools can reinforce and complement what the child experiences at home. There was much more diversity of strong opinions

on the following parental roles: participate in health programs for kids, encourage /praise kids' efforts, and the idea that what parents value is what kids will value.

2. What role do elementary school principals in the Tulsa Public Schools believe schools should play in preventing child overweight?

Although the principals expressed strong opinions and were in basic agreement on what parents should do, they expressed much less consensus of strong agreement around the role of the schools in preventing overweight in children. Percentage of principals who strongly agreed with the following school roles: take a leadership role (53%), include nutrition in the curriculum (61%) (Sutherland et al., 2004), provide food that meets nutritional standards (75%), offer fast food "a la carte" (14%), make the school gymnasium available to families as a fitness center (28%), provide PE classes every day (53%), offer more variety in healthy foods (75%), offer more variety in foods that kids like (44%), participate in health programs (50%), provide fitness tests for children (50%) (Chomitz et al., 2003), send BMI report cards home to parents (33%) (Chomitz et al., 2003), communicate with parents on results of their child's fitness tests (44%) (Chomitz et al., 2003) (Borra et al., 2003).

3. What barriers do elementary school principals in the Tulsa Public Schools perceive regarding participation in school-based overweight prevention programs?

There was very little consensus of strong agreement with any of the barriers for children or for parents' participation in school health programs. Strong agreement with barriers for children: lack of transportation (20%) (Spear et al., 2007), nutrition is not a high priority in

many families in my school (33%), afterschool programs make the day too long for most children (8%), lack of immediate results discourages children from consistently participating in health programs (17%), and lack of parental involvement discourages children from consistently participating in health programs (39%) (Gray et al., 2008).

Strong agreement regarding barriers for parents: lack of transportation (25%), working two jobs or long hours prevents parents from participating in school health programs (39%), many parents of students in my school have competing priorities that prevent or limit participation in school-based health programs (22%), lack of interest prevents parents from participating in school health programs (31%), and parental involvement in my school is lower than I would like (47%).

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Qualitative Measures - Research Questions

Unlike the principal survey which listed items for the principals to agree or disagree with, the parent and teacher interview questions were open-ended and allowed the respondents to express their own ideas about the question. Themes emerged when a large majority of the respondents brought up a particular topic.

1. What are the attitudes of single parents and teachers of 4th and 5th grade African American students in Title I schools regarding factors contributing to child overweight?

Emerging themes were junk food/fast food (Howard, 2007), suggested by both parents and teachers, and sedentary lifestyle and "good food costs more" suggested primarily by teachers. Emerging themes for the parental role were give kids the right food, be involved, health education, suggested by both parents and teachers, and healthy

relationships and limit screen time (Howard, 2007), suggested more frequently by teachers than by parents.

2. What role do single parents and teachers of 4th and 5th grade African American students in Title I schools believe schools should play in preventing child overweight?

There was a strong consensus among parents and teachers that schools should provide healthful food (Katz, 2009), provide health education (classroom) (Katz, 2009), keep kids active, and provide a health program (fitness) (Katz, 2009). Providing family activities was suggested by twice as many teachers as parents.

3. What barriers do single parents and teachers of 4th and 5th grade African American students in Title I schools perceive regarding participation in school-based overweight prevention programs?

For children, teachers believed the barriers to attending school-based health programs were transportation (Spear et al., 2007), bullying (Eisenberg et al., 2003; Gray et al., 2008; Juvonen et al., 2003), low self-esteem/low self-confidence (Gray et al., 2008), and their parents not wanting them to participate (Gray et al., 2008). These themes were mentioned by only a few parents. Barriers for parents to participate had emerging themes of jobs, long hours or work schedule, expensive food, and access to grocery stores (Ford & Dzewaltowski, 2008). Teachers also thought transportation was a barrier for parents, but only one parent agreed.

Triangulation of Data Sources - Results

There was broad agreement across principals, parents and teachers that healthful food and daily exercise are important to the health of children, that fast food or junk food

can lead to overweight (Spear et al., 2007), and that parents should limit screen time and keep kids active by encouraging them to go outside to play (S. E. Anderson et al., 2008). There was also broad support among parents and teachers for the schools providing nutritious food (Katz, 2009), providing health education (Katz, 2009) and a health program and keeping kids active by providing physical education classes every day and providing recess during the day for outside exercise and play. It was considered important by parents and teachers that parents also provide health education. Children should be receiving the same health messages at home and at school. These areas of consensus can be springboards for building rapport in intervention programs.

The factors contributing to overweight in children included several that are well-documented in the literature (junk food/fast food (Spear et al., 2007), sedentary lifestyle, too much TV and game time (Dowda et al., 2001), media influences (Harris et al., 2009), good food costs more) as well as a couple that are less discussed in the literature (stress of various kinds, too little sleep). Stress was seen as a modifier of eating behaviors and too little sleep was seen as a cause of children being too tired to want to participate in physical activity.

The role of parents was primarily to give kids the "right food", keep kids active, be involved, and provide health education in the home. Other roles included providing healthy relationships, limiting screen time (S. E. Anderson et al., 2008), and making sure kids get enough sleep.

The role of the schools was primarily to provide "healthy" food, health education, keep kids active, and provide a health program. Teachers also saw a role in providing for

family activities related to overweight prevention and health, but parents said they were too busy to attend or had scheduling problems or other priorities.

For parents, the number one barrier noted by parents, teachers, and principals was jobs, long hours, or work schedules. Teachers also cited expensive food (Ford & Dzewaltowski, 2008) and parents talked more about access to grocery stores (Ford & Dzewaltowski, 2008). There was a disconnect on whether or not transportation was a barrier for parents: teachers thought yes, but only one parent agreed.

The perception of barriers for kids and parents varied by group. Transportation was considered a major barrier for children (Spear et al., 2007) and parents by principals and all of the teachers. All of the parents considered transportation a barrier for parents, but only two parents considered transportation a barrier for children. Jobs, long hours or work schedules were recognized by all parents and teachers as barriers to parental involvement and strong or very strong agreement was reported by principals on the survey.

The importance of parental involvement was recognized and various reasons were given by all groups for lack of parental involvement. Safety and bullying (Gray et al., 2008) were not addressed in the survey but were issues raised by both parents and teachers as barriers for children. There was a general recognition that parents and teachers are struggling to be good role models and need help with their own weight challenges. Providing healthy relationships was brought up by both parents and teachers as a shared responsibility of the parents and schools that can impact overweight in kids.

There were several themes that were more prevalent among teachers than among parents. These included describing overweight by things that a child could not do, and

naming “sedentary lifestyle” and “good food costs more” among factors that contribute to overweight among children. “Expensive food” was also named more often by teachers than by parents as a barrier for parents to actively support health programs. And teachers more often talked about the need for parents to provide healthy relationships and to “be there for kids.” Safety came up as an “other issue” for five of the parents and four of the teachers.

The impact of stress in the lives of the children was acknowledged by the various stakeholders in this issue. About half (53%) of the principals strongly agreed that a healthy lifestyle for kids would include freedom from stress. Parents talked primarily about the stress related to bullying and safety issues (Gray et al., 2008). Teachers also raised those concerns but talked more about the stresses related to challenges of everyday living. Teachers hear from their students about what is going on in their lives. Some children are dealing with daily problems that would stagger an adult, and then we say, “Eat your vegetables!” For many of these kids, that may not be their most urgent problem.

Limitations of the Study

Limitations of this research include the fact that the data are very context-specific. The qualitative component of the study is focused on understanding the phenomenon in a particular context in depth. The population is single parents and teachers of African American 4th and 5th grade students in Title I schools in Tulsa and findings are not generalizable beyond this specific context. The data collected in the survey and interviews are self-reported. Interview data limitations include the possibility of distorted responses due to personal bias, anxiety, or lack of rapport between interviewer and

interviewee. Persons may over-estimate their healthy eating and exercise practices and intent when talking to a dietitian. With qualitative inquiry, ambiguities exist in collecting, coding and interpreting data.

Implications for Practice and Policy

Particularly insightful, and somewhat surprising given their stage of change data, are the views of the principals concerning their own role and the influence they can wield on policy and on prevention. Only a small percentage of principals strongly agree that a principal can set or influence policy or that prevention is within their sphere of influence. Since principal consent is required to implement a program in the schools, there is an opportunity to leverage their growing interest, as reflected in their stage of change data, and explore the ways in which principals can influence the initiation and success of school–based programs and policy. Their own stated perception of their potential role and influence is likely understated. There is also an opportunity for principals, teachers and parents to explore and develop appropriate roles for parents and schools.

Understanding and addressing barriers to participation by children and parents is another area of opportunity for parents, teachers, principals, and program developers to work together. Rather than minimizing perceived barriers or placing them in low priority, it is important for program developers to be sensitive to the challenges faced by children and families who are most in need of a health program and to step up efforts to explore ways of eliminating or reducing the impact of perceived barriers. For instance, the diversity of the family circumstances and the varied understandings of family relationships is a caution against making assumptions about lifestyle, roles, resources, or tractability of barriers. This must be considered in attempts to involve the family in

interventions. Non-traditional family structures and variations in living arrangements, relationships, and attendant complications in the daily lives of some children must be considered when addressing barriers to their participation in school health programs.

Aspects of the built environment that are of particular concern to program developers are access to grocery stores and safe areas for children to play without fear. Some individual challenges are peer victimization, personal situations, financial resources, and family dynamics.

This research did not attempt to prove a theory, but it gives voice to the principals, parents, and teachers within a narrowly defined context and suggests the need to include stakeholder attitudes and beliefs about factors contributing to overweight and the roles schools should play in preventing overweight when developing theories and interventions for this vulnerable population.

The attitudes and beliefs of key stakeholders shape their response to and the success of school-based obesity prevention programs. These data can inform policies and shape programs designed to benefit children at highest risk for overweight.

Future Research Directions

The points where the data converged, diverged, or were simply different perspectives are of interest and provide insights for further study. Recommendations for future research include more diverse samples and other specific context samples, including healthcare workers as well as parents, teachers, principals, researchers, and children . Formative research including focus groups and interviews could provide the

needed information to drive the state of knowledge vertically forward and improve the participation and effectiveness of health programs (Heary & Hennessy, 2002).

Chapter Summary

These findings confirm previously reported stakeholder views, add new insights, and begin to fill some of the gaps in the literature. Confirmed views of the stakeholders are that overweight contributing factors are believed to be primarily unhealthy eating and lack of physical activity. Other factors are explained in terms of how they affect healthy eating and physical activity. Barriers include teasing and bullying of overweight children, neighborhood safety, and resource disparities. New information, in terms of personal insights provided by the stakeholders, is related to bullying, safety, stress, sleep, and healthy relationships. Parent and teacher narrative vignettes add depth and texture to the literature on these topics. These stakeholders indicated that the eating environment is primarily a parent responsibility to be supported by the schools. Schools should keep kids active. Parents should also encourage kids to go outside and play. Children should receive the same health messages at school and at home. This research added the views of an ethnic minority and low socio-economic group. It identified views and readiness for change of an additional stakeholder group, elementary school principals. It added stakeholder views and first person comments related to a healthy lifestyle, ways of thinking about overweight in children, contributing factors, and the roles of parents and schools in preventing overweight in children. In addition, the research highlighted areas of convergence, divergence, and tension among attitudes and beliefs of key stakeholder groups regarding the prevention of overweight in elementary school children within a specific context.

This research has implications for practice and policy regarding the design and implementation of health programs by suggesting that key stakeholder views be addressed in design and implementation plans. It suggests future directions for research regarding the attitudes and beliefs of key stakeholders.

Overweight and obesity are complex issues fraught with many inter-related physical, emotional, environmental, physiological and societal factors. To be effective in preventing overweight in elementary school children, we need the voices of all stakeholder groups, people who live daily with obesity's causes and effects and who are responsible for protecting its most vulnerable victims – the children. Here are some of those voices. We need to hear more.

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APPENDICES

APPENDIX A

INSTITUTIONAL REVIEW BOARD

APPROVAL FORMS

Oklahoma State University Institutional Review Board

Date	Friday, March 13, 2009	**Protocol Expires:**	**3/12/2010**
IRB Application No:	HE087		
Proposal Title:	Parent and Teacher Attitudes and Beliefs Concerning Elementary School-based Childhood Overweight Prevention in Tulsa, Oklahoma		
Reviewed and Processed as:	Exempt **Continuation**		

Status Recommended by Reviewer(s): **Approved**

Principal Investigator(s) :

Norma DeVault 1528 S. Gary Pl. Tulsa, OK 74104	Tay Seacord Kennedy 301 HES Stillwater, OK 74078

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature :

Shelia Kennison, Chair, Institutional Review Board

Friday, March 13, 2009
Date

Oklahoma State University Institutional Review Board

Date:	Monday, February 16, 2009	**Protocol Expires:**	**5/21/2009**
IRB Application No:	HE087		
Proposal Title:	Parent and Teacher Attitudes and Beliefs Concerning Elementary School-based Childhood Overweight Prevention in Tulsa, Oklahoma		
Reviewed and Processed as:	Exempt **Modification**		

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Norma DeVault 1528 S. Gary Pl. Tulsa, OK 74104	Tay Seacord Kennedy 301 HES Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

The modification request to modify the consent form to reflect the change in compensation is approved.

Signature :

Shelia Kennison, Chair, Institutional Review Board

Monday, February 16, 2009
Date

Oklahoma State University Institutional Review Board

Date:	Thursday, May 22, 2008
IRB Application No	HE087
Proposal Title:	Parent and Teacher Attitudes and Beliefs Concerning Elementary School-based Childhood Overweight Prevention in Tulsa, Oklahoma
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 5/21/2009

Principal Investigator(s):

Norma DeVault	Tay Seacord Kennedy
1528 S. Gary Pl.	312 HES
Tulsa, OK 74104	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date:	Tuesday, August 05, 2008
IRB Application No	HE0847
Proposal Title:	Elementary School Principal Attitudes and Beliefs about Childhood Overweight
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 8/4/2009

Principal Investigator(s):

Norma DeVault
1528 S. Gary Pl.
Tulsa, OK 74104

Tay Seacord Kennedy
301 HES
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

[X] The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

APPENDIX B

SURVEY INSTRUMENT

Elementary School Principal Survey
Attitudes and Beliefs about Childhood Overweight

YOU ARE NOT REQUIRED TO FILL OUT THIS SURVEY! However, by completing this form you are agreeing to participate in my research. Not completing the form will not affect your job evaluation. This is a completely confidential survey, and I will only use a summary based on composite reports to present my findings. ***No individual responses will be used! Please DO NOT write your name anywhere on this survey!***

Please indicate your level of agreement or disagreement with each of the following statements by filling in one of the circles on the continuum from strongly agree to strongly disagree.

A healthy lifestyle for kids:	Strongly Agree				Strongly Disagree
• includes nutrition.	O	O	O	O	O
• includes physical activity.	O	O	O	O	O
• includes parental support of the child's efforts to be healthy.	O	O	O	O	O
• does not include exposure to tobacco.	O	O	O	O	O
• does not include exposure to toxic substances.	O	O	O	O	O
• Includes family sit-down meals together.	O	O	O	O	O
• includes freedom from stress.	O	O	O	O	O
• includes adequate sleep.	O	O	O	O	O
• includes healthy relationships.	O	O	O	O	O

What can lead to overweight in kids?					
• Sedentary lifestyle	O	O	O	O	O
• Sweetened beverages.	O	O	O	O	O
• Excessive "screen time" (TV, computer, games).	O	O	O	O	O
• Fast food.	O	O	O	O	O
• Consumption of high fat foods.	O	O	O	O	O
• Low parental involvement.	O	O	O	O	O
• Food preparation methods.	O	O	O	O	O
• Dysfunctional family relationships.	O	O	O	O	O
• Genetics	O	O	O	O	O
• Socio-economic status	O	O	O	O	O

What should parents do?	Strongly Agree				Strongly Disagree
• Take a leadership role in preventing overweight in children.	O	O	O	O	O
• Be role models for healthy life style.	O	O	O	O	O
• Keep kids active.	O	O	O	O	O
• Support kids; efforts to be healthy.	O	O	O	O	O
• Provide healthy foods.	O	O	O	O	O
• Set limits on "screen time" (TV, computer, games) for kids.	O	O	O	O	O
• Participate in health programs for kids.	O	O	O	O	O
• Encourage and praise kids' efforts to be healthy.	O	O	O	O	O
• What parents value is what kids will value.	O	O	O	O	O

What should schools do?					
• Take a leadership role in preventing overweight in children.	O	O	O	O	O
• Include nutrition in the curriculum.	O	O	O	O	O
• Provide food that meets nutritional standards.	O	O	O	O	O
• Offer fast food choices "a la carte".	O	O	O	O	O
• Make school gymnasium available to families as a fitness center.	O	O	O	O	O
• Provide PE classes every day.	O	O	O	O	O
• Offer more variety in healthy foods.	O	O	O	O	O
• Offer more variety in foods that kids like.	O	O	O	O	O
• Participate in health programs designed to reduce overweight in children.	O	O	O	O	O
• Provide fitness tests for children.	O	O	O	O	O
• Send BMI report cards home to parents.	O	O	O	O	O
• Communicate with parents on results of their child's fitness tests.	O	O	O	O	O

What are barriers for some children?	Strongly Agree				Strongly Disagree
• Lack of transportation is a major factor in the ability of students to participate in school-based nutrition programs.	O	O	O	O	O
• Nutrition is not a high priority in many families in my school.	O	O	O	O	O
• After-school programs make the day too long for most children.	O	O	O	O	O
• Lack of immediate results discourages children from consistently participating in health programs.	O	O	O	O	O
• Lack of parental involvement discourages children from consistently participating in health programs.	O	O	O	O	O

What are barriers for some parents?					
• Lack of transportation is a major factor in the ability of parents to participate in school-based health programs.	O	O	O	O	O
• Working two jobs or long hours prevents parents from participating in school health programs.	O	O	O	O	O
• Many parents of students in my school have competing priorities that prevent or limit participation in school-based health programs.	O	O	O	O	O
• Lack of interest prevents parents from participating in school health programs.	O	O	O	O	O
• Parental involvement in my school is lower than I would like.	O	O	O	O	O

Elementary School Principal Survey
Attitudes and Beliefs about Childhood Overweight

In your opinion, please rank the following items in order of importance **as a factor contributing to childhood overweight**, where **"1" has the greatest effect** of the six items and **"6" has the least effect** of the six items.

Please circle one number for each item on the list. **This is a rank order.** **Use each number once and only once.**

	Greatest Effect					Least Effect
Socio-economic status	1	2	3	4	5	6
Nutrition	1	2	3	4	5	6
Genetics	1	2	3	4	5	6
Knowledge/Attitude/Beliefs	1	2	3	4	5	6
Physical Activity	1	2	3	4	5	6
Parental Support	1	2	3	4	5	6

As an elementary school principal, what can I do?

	Strongly Agree				Strongly Disagree
• Take a leadership role in preventing overweight in children.	O	O	O	O	O
• Set policy related to prevention of overweight in children.	O	O	O	O	O
• Influence policy related to prevention of overweight in my school.	O	O	O	O	O
• Prevention of childhood overweight is within my sphere of influence.	O	O	O	O	O
• My school participates in a school health program designed to prevent or reduce childhood overweight.	O	O	O	O	O
• I would like for my school to participate in a school health program designed to prevent or reduce childhood overweight.	O	O	O	O	O

Readiness for Change:

Please select and circle one answer to the statement below.

When it comes to preventing overweight in students in my school:

a. I am not ready to think about it yet.

b. I am beginning to think about the issue.

c. I am making an action plan for the coming year.

d. I already have a plan in place and am taking action.

e. I am measuring results and seeing ongoing progress.

f. I do not think this issue is an important part of my role.

Demographics

- The enrollment in my school is ______________
- The percentage of free and reduced lunch in my school is __________%.
- The ethnic composition of my school is

  ________% African American
  ________% Hispanic
  ________% White
  ________% Native American
  ________% Asian

- My ethnicity is: ____________
- My gender is: Male Female
- My estimate of overweight among my students is:
  ____% At risk of overweight
  (BMI > 85th percentile for age and gender)
  ____% Overweight
  (BMI > 95th percentile for age and gender)

Other Issues

What other issues or concerns do you have related to childhood overweight?

____
____
____
____
____
____
____
____
____
____
____

APPENDIX C

ANNOUNCEMENT FOR

PRINCIPAL SURVEY

Tri-Fold Self-Seal Mailer

Elementary School Principal Survey

Okla. State Univ.
IRB
Approved 8/5/08
Expires 8/4/09
IRB# HE0847

Attitudes and Beliefs about Childhood Overweight

$20 incentive will be mailed to you when you return the completed survey and address card which will be mailed to you next week.

This survey is in partial fulfillment of my PhD research requirement and may be used in my dissertation. Your answers are confidential.

Your input will help to develop health programs that will benefit elementary school students and their families.

Please watch for this survey in your mail next week. A $20 cash incentive is offered for your time, consideration, and valued opinions in the 2 page questionnaire. When we receive your completed survey and address card, $20 will be mailed to you. Response is confidential.

Elementary School Principal Survey
Attitudes and Beliefs about Childhood
Overweight
$20 for your thoughts!

Norma DeVault, MS, MBA, RD/LD
1528 S. Gary Pl.
Tulsa, OK 74104

Principal's Name
Elementary School
School Address
Tulsa, OK 741xx

We value your opinion and expertise!

A $20 incentive is offered for your completed questionnaire and address card. Watch for this survey in your mail next week. Thank you. Norma DeVault, Oklahoma State University PhD graduate student

APPENDIX D

COVER LETTER

WITH ELEMENTS OF CONSENT

FOR PRINCIPAL SURVEY

Cover Letter with Elements of Consent

Hello!

I am a graduate student at Oklahoma State University. I would like to invite you to take part in a project to find out the attitudes and beliefs of elementary school principals about childhood overweight and school-based nutrition and activity programs.

If you choose to participate, you will complete a two page questionnaire and receive $20 in appreciation for your time, consideration, and your valued opinions. Your answers to survey questions will remain confidential. Names will not be recorded with the data. You may drop out at any time with no penalty.

Please read the attachment for information regarding the research. To participate, please complete and return the enclosed confidential survey and the address card. When we receive your completed survey and address card, we will separate the survey from the address card for confidentiality and use the address card in mailing the $20 incentive to you.

Thank you!

Norma DeVault
OSU Graduate Student

APPENDIX E

INTRODUCTORY LETTER WITH ELEMENTS OF CONSENT FOR SURVEY

Introductory Letter with Elements of Consent

Date

Elementary School Principal Attitudes and Beliefs about Childhood Overweight

Hello!

I am a graduate student at Oklahoma State University. I would like to invite you to take part in a project to find out the attitudes and beliefs of elementary school principals about childhood overweight and school-based nutrition and activity programs. You qualify for the study because you are the principal of an elementary school in Tulsa, Oklahoma.

If you choose to participate, you will complete a two page questionnaire and receive $20 in appreciation for your time, consideration, and your valued opinions. The survey will take about ten minutes. Your answers to survey questions will remain confidential. Names will not be recorded with the data. If you are uncomfortable with answering any question on the survey, you may skip the question or withdraw from the procedure at that point with absolutely no penalty.

To participate, please complete and return the enclosed confidential survey and the address card. When we receive your completed survey and address card, we will assign an identification number to the survey, separate the survey from the address card for confidentiality, and use the address card in mailing the $20 incentive to you. If you do not want to participate, simply do not return the survey or address card.

All information will remain confidential and will not be released. Information we collect will be recorded with an identification number, and names will not be kept with the files after the ID is assigned. All information will be kept in a secure, locked file cabinet in the office of my advisor at Oklahoma State University. It will be open only to the researchers and their assistants. This information will be saved as long as it is scientifically useful; typically, such information is kept for

five years. Results from this study may be used in a dissertation. Any written results will discuss group findings only, not information identifying individuals.

The benefits of participating in the study are as follows:

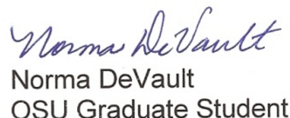
- The surveys will yield formative data on attitudes and beliefs toward school-based nutrition and activity programs and readiness of stakeholders to take action to prevent childhood overweight.
- Participation will provide data that can be used in designing focus groups to explore stakeholder attitudes and beliefs concerning childhood overweight, in determining readiness of stakeholders to take action, and in designing programming to prevent childhood overweight.

Your participation will provide useful information on these topics. The findings from this project will contribute to future programs aimed to improve children's health by building healthy habits for a lifetime.

If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu

If you have any questions about this research project, you may contact Tay Kennedy, Nutritional Sciences, Oklahoma State University, (405) 744-5965. You may also contact the principal investigator, Norma DeVault, a graduate student at Oklahoma State University, Nutritional Sciences Department, (918) 744-6489.

Thank you!



Norma DeVault
OSU Graduate Student

APPENDIX F

FIRST REMINDER FOR

PRINCIPAL SURVEY

Tri-Fold Self-Seal Mailer

Elementary School Principal Survey

Attitudes and Beliefs about Childhood Overweight

Okla. State Univ.
IRB
Approved 8/5/08
Expires 8/4/09
IRB# HE0847

We have not yet received your completed survey. Please take a moment to provide us with your valued opinions.

Your responses will be confidential. They will help us develop school health programs that will benefit elementary school students and their families.

If you need another copy of the survey or have any questions, please contact me at (918) 744-6489 or Norma.DeVault@okstate.edu

Your $20 incentive will be mailed to you when we receive your completed questionnaire and address card. Thank you!

open

Your $20 incentive
is waiting.

Norma DeVault, MS, MBA, RD/LD
1528 S. Gary Pl.
Tulsa, OK 74104

Principal's name
Elementary School
School street address
Tulsa, OK 741xx

Elementary School Principal Survey

To receive your $20 incentive, please return your completed survey and address card by mm/dd/08

APPENDIX G

SECOND REMINDER FOR

PRINCIPAL SURVEY

Tri-Fold Self-Seal Mailer

Elementary School Principal Survey

Attitudes and Beliefs about Childhood Overweight

We have not yet received your completed survey.

Please take a moment to provide us with your valued opinions.

Confidential

Help kids

Help grad student

Cash incentive

Okla. State Univ.
IRB
Approved 8/5/08
Expires 8/4/09
IRB# HE0847

If you need another copy of the survey or have any questions, please contact me at (918) 744-6489 or Norma.DeVault@okstate.edu

Your $20 incentive will be mailed to you when we receive your completed questionnaire and address card. Thank you!

open

Second Reminder

Your $20 incentive is waiting.

Norma DeVault, MS, MBA, RD/LD
1528 S. Gary Pl.
Tulsa, OK 74104

Principal's name
Elementary School
School street address
Tulsa, OK 741xx

Elementary School Principal Survey

To receive your $20 incentive, please return your completed survey and address card by mm/dd/08

APPENDIX H

THIRD REMINDER FOR

PRINCIPAL SURVEY

Tri-Fold Self-Seal Mailer

Elementary School Principal Survey

Attitudes and Beliefs about Childhood Overweight

We have not yet received your completed survey.

Please take a moment to provide us with your valued opinions.

Confidential

Help kids

Help grad student

Cash incentive

Okla. State Univ.
IRB
Approved 8/5/08
Expires 8/4/09
IRB# HE0847

If you need another copy of the survey or have any questions, please contact me at (918) 744-6489 or Norma.DeVault@okstate.edu

Your $20 incentive will be mailed to you when we receive your completed questionnaire and address card. Thank you!

Last opportunity to participate.
Your $20 incentive is waiting.

If you have already mailed your response,
thank you for participating in this research!

Norma DeVault, MS, MBA, RD/LD
1528 S. Gary Pl.
Tulsa, OK 74104

Principal's name
Elementary School
School street address
Tulsa, OK 741xx

Elementary School Principal Survey

To receive your $20 incentive, please return your completed survey and address card by mm/dd/yy.

APPENDIX I

THANK YOU LETTER FOR PRINCIPAL SURVEY

Thank You Letter

Dear Principal,

Thank you for taking part in a project to find out the attitudes and beliefs of elementary school principals about childhood overweight and school-based nutrition and activity programs. Your answers to the survey questions will help us design programming to prevent childhood overweight.

Enclosed is $20 in appreciation for your time, consideration, and valued opinions.

Thank you!

Norma DeVault
OSU Graduate Student

APPENDIX J

PRINCIPAL SURVEY RESULTS

Principal Survey Results

A healthy lifestyle for kids

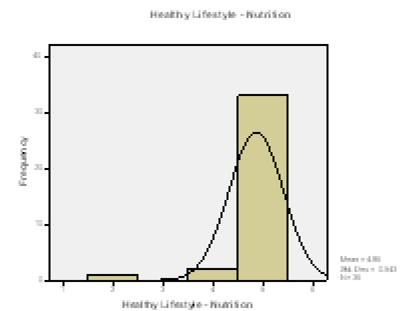
5 = Strongly Agree, 1 = Strongly Disagree

		Healthy Lifestyle - Nutrition	Healthy Lifestyle - Physical activity	Healthy Lifestyle - Parental Support	Healthy Lifestyle - No tobacco	Healthy Lifestyle - No toxic substances	Healthy Lifestyle - Family meals	Healthy Lifestyle - Freedom from stress	Healthy Lifestyle - Adequate sleep	Healthy Lifestyle - Healthy relationships
N	Valid	36	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0	0
Mean		4.86	4.92	4.67	4.64	4.69	4.44	4.36	4.83	4.64
Median		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Mode		5	5	5	5	5	5	5	5	5
Std. Deviation		.543	.500	.717	.798	.749	.735	.867	.561	.683
Variance		.294	.250	.514	.637	.561	.540	.752	.314	.466
Range		3	3	3	3	3	2	3	3	3

Healthy Lifestyle - Nutrition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	2	5.6	5.6	8.3
	5	33	91.7	91.7	100.0
	Total	36	100.0	100.0	

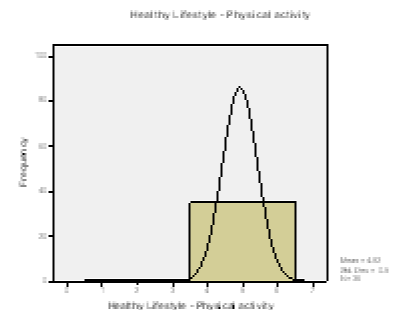
92% of the principals strongly agreed that a healthy lifestyle for kids includes nutrition.



Healthy Lifestyle - Physical activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	5	35	97.2	97.2	100.0
	Total	36	100.0	100.0	

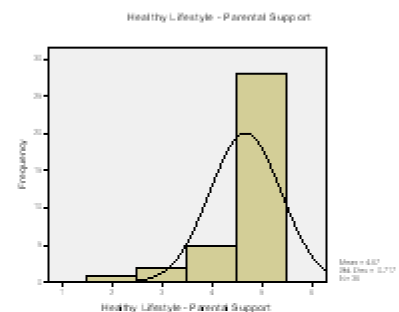
97% of the principals strongly agreed that a healthy lifestyle for kids includes physical activity.



Healthy Lifestyle - Parental Support

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	2	5.6	5.6	8.3
	4	5	13.9	13.9	22.2
	5	28	77.8	77.8	100.0
	Total	36	100.0	100.0	

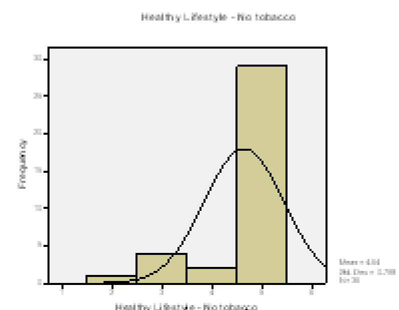
78% of the principals strongly agreed that a healthy lifestyle for kids includes parental support of the child's efforts to be Healthy.



Healthy Lifestyle - No tobacco

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	4	11.1	11.1	13.9
	4	2	5.6	5.6	19.4
	5	29	80.6	80.6	100.0
	Total	36	100.0	100.0	

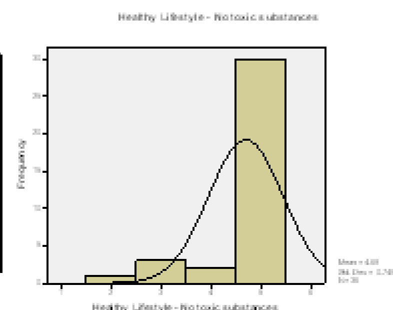
81% of the principals strongly agreed that a healthy lifestyle for kids does not include exposure to tobacco.



Healthy Lifestyle - No toxic substances

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	3	8.3	8.3	11.1
	4	2	5.6	5.6	16.7
	5	30	83.3	83.3	100.0
	Total	36	100.0	100.0	

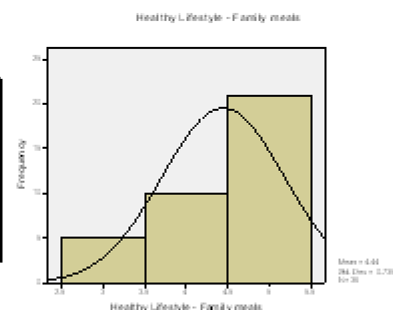
83% of the principals strongly agreed that a healthy lifestyle for kids does not include exposure to toxic substances.



Healthy Lifestyle - Family meals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	5	13.9	13.9	13.9
	4	10	27.8	27.8	41.7
	5	21	58.3	58.3	100.0
	Total	36	100.0	100.0	

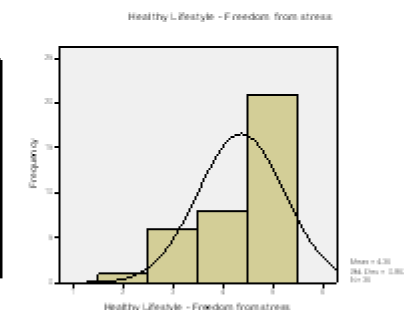
58% of the principals strongly agreed that a healthy lifestyle for kids includes family sit-down meals together.



Healthy Lifestyle - Freedom from stress

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	6	16.7	16.7	19.4
	4	8	22.2	22.2	41.7
	5	21	58.3	58.3	100.0
	Total	36	100.0	100.0	

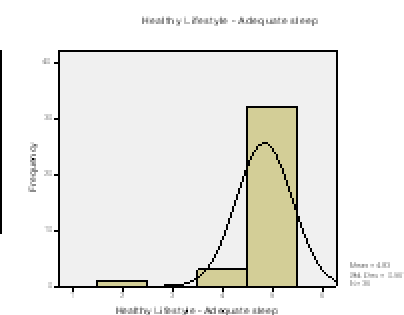
58% of the principals strongly agreed that a healthy lifestyle for kids includes freedom from stress. 3% fairly strongly disagreed.



Healthy Lifestyle - Adequate sleep

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	3	8.3	8.3	11.1
	5	32	88.9	88.9	100.0
	Total	36	100.0	100.0	

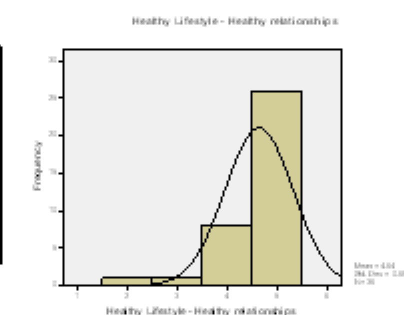
89% of the principals strongly agreed that a healthy lifestyle for kids includes adequate sleep.



Healthy Lifestyle - Healthy relationships

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	1	2.8	2.8	5.6
	4	8	22.2	22.2	27.8
	5	26	72.2	72.2	100.0
	Total	36	100.0	100.0	

72% of the principals strongly agreed that a healthy lifestyle for kids includes healthy relationships.



What Can Lead to overweight in kids?

5 = Strongly Agree, 1 = Strongly Disagree

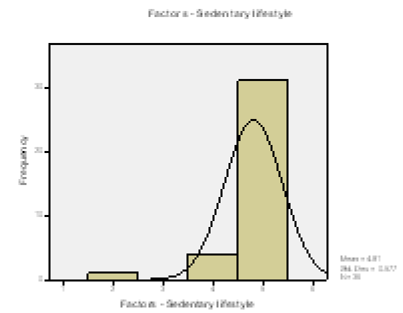
Statistics

		Factors - Sedentary lifestyle	Factors - Sweetened beverages	Factors - Exceesive screen time	Factors - Fast food	Factors - High fat foods	Factors - Low parental involvement	Factors - Food preparation methods	Factors - Dysfunctional family relationships	Factors - Genetics	Factors - Socio-economic status
N	Valid	36	36	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		4.81	4.72	4.75	4.83	4.83	4.53	4.31	4.31	4.31	3.89
Median		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00
Mode		5	5	5	5	5	5	5	5	5	5
Std. Deviation		.577	.659	.649	.609	.561	.810	.920	.920	.920	1.008
Variance		.333	.435	.421	.371	.314	.656	.847	.847	.847	1.016
Range		3	3	3	3	3	2	3	3	3	4

Factors - Sedentary lifestyle

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	4	11.1	11.1	13.9
	5	31	86.1	86.1	100.0
	Total	36	100.0	100.0	

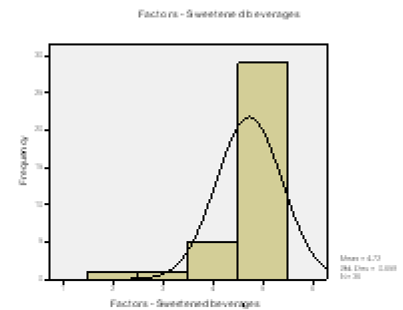
86% of the principals strongly agreed that sedentary lifestyle can lead to overweight in kids.



Factors - Sweetened beverages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	1	2.8	2.8	5.6
	4	5	13.9	13.9	19.4
	5	29	80.6	80.6	100.0
	Total	36	100.0	100.0	

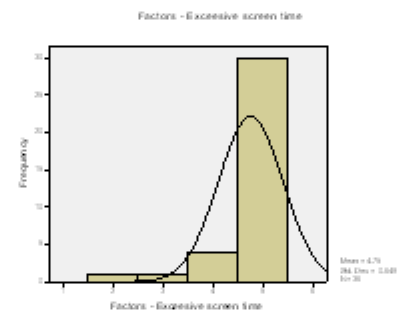
81% of the principals strongly agreed that sweetened Beverages can lead to overweight in kids.



Factors - Exceesive screen time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	1	2.8	2.8	5.6
	4	4	11.1	11.1	16.7
	5	30	83.3	83.3	100.0
	Total	36	100.0	100.0	

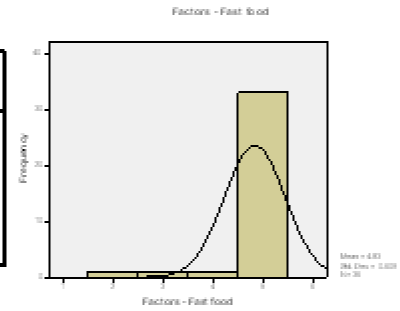
83% of the principals strongly agreed that excessive Screen time can lead to overweight in kids.



Factors - Fast food

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	1	2.8	2.8	5.6
	4	1	2.8	2.8	8.3
	5	33	91.7	91.7	100.0
	Total	36	100.0	100.0	

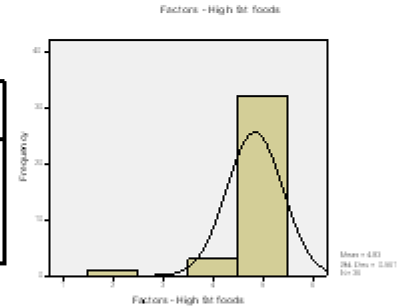
92% of the principals strongly agreed that fast food can lead to overweight in kids.



Factors - High fat foods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	3	8.3	8.3	11.1
	5	32	88.9	88.9	100.0
	Total	36	100.0	100.0	

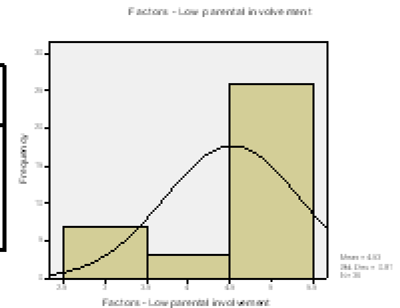
89% of the principals strongly agreed that high fat foods can lead to overweight in kids.



Factors - Low parental involvement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	7	19.4	19.4	19.4
	4	3	8.3	8.3	27.8
	5	26	72.2	72.2	100.0
	Total	36	100.0	100.0	

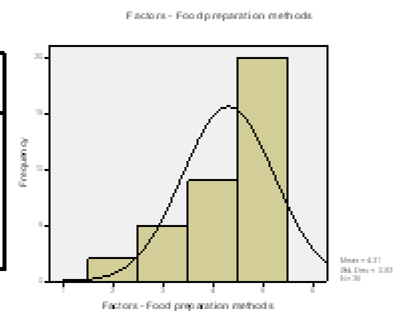
72% of the principals strongly agreed that low parental involvement can lead to overweight in kids.



Factors - Food preparation methods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	5.6	5.6	5.6
	3	5	13.9	13.9	19.4
	4	9	25.0	25.0	44.4
	5	20	55.6	55.6	100.0
	Total	36	100.0	100.0	

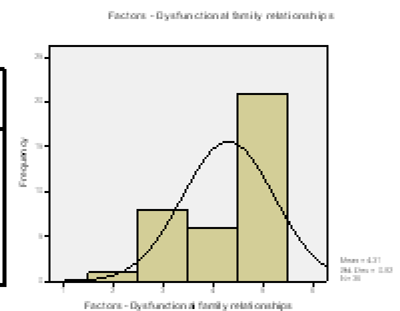
56% of the principals strongly agreed that food preparation methods can lead to overweight in kids. 6% disagreed.



Factors - Dysfunctional family relationships

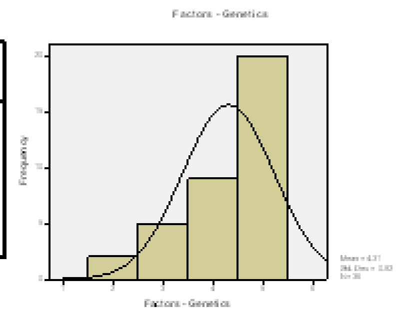
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	8	22.2	22.2	25.0
	4	6	16.7	16.7	41.7
	5	21	58.3	58.3	100.0
	Total	36	100.0	100.0	

58% of the principals strongly agreed that dysfunctional Family relationships can lead to overweight in kids.



Factors - Genetics

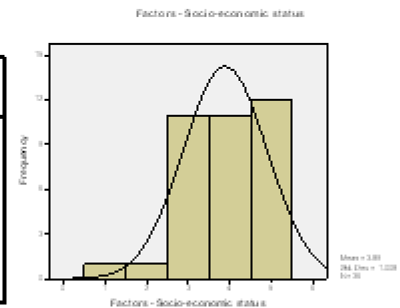
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	5.6	5.6	5.6
	3	5	13.9	13.9	19.4
	4	9	25.0	25.0	44.4
	5	20	55.6	55.6	100.0
	Total	36	100.0	100.0	



56% of the principals strongly agreed that genetics can lead to overweight in kids.

Factors - Socio-economic status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	1	2.8	2.8	5.6
	3	11	30.6	30.6	36.1
	4	11	30.6	30.6	66.7
	5	12	33.3	33.3	100.0
	Total	36	100.0	100.0	



33% of the principals strongly agreed that socio-economic status can lead to overweight in kids. 3% strongly disagreed.

What should parents do?

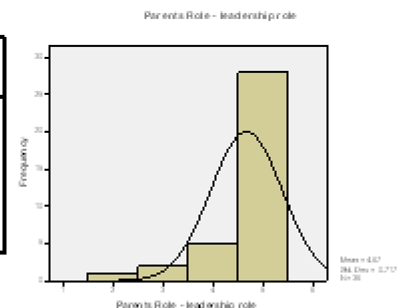
5 = Strongly Agree, 1 = Strongly Disagree

Statistics

		Parents Role - leadership role	Parents Role - role model	Parents Role - Keep kids active	Parents Role - Support kids efforts	Parents Role - Provide healthy foods	Parents Role - Limit screen time	Parents Role - Participate in health programs	Parents Role - Encourage/ praise kids' efforts	Parents Role - Parents' values
N	Valid	36	36	36	36	36	35	36	36	36
	Missing	0	0	0	0	0	1	0	0	0
Mean		4.67	4.81	4.81	4.83	4.78	4.71	4.39	4.67	4.56
Median		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Mode		5	5	5	5	5	5	5	5	5
Std. Deviation		.717	.577	.467	.561	.591	.710	.838	.717	.607
Variance		.514	.333	.218	.314	.349	.504	.702	.514	.368
Range		3	3	2	3	3	3	3	3	2

Parents Role - leadership role

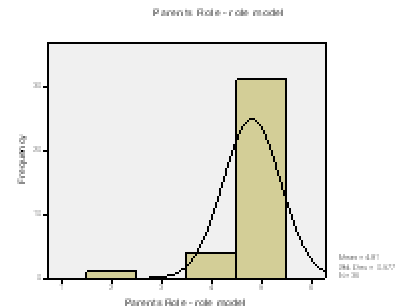
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	2	5.6	5.6	8.3
	4	5	13.9	13.9	22.2
	5	28	77.8	77.8	100.0
	Total	36	100.0	100.0	



78% of the principals strongly agreed that parents should Take a leadership role in preventing overweight in children.

Parents Role - role model

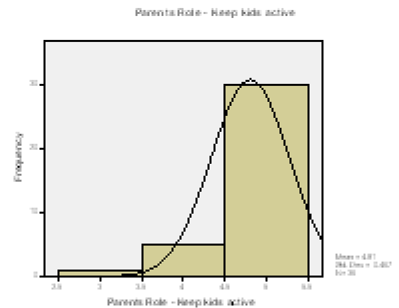
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	4	11.1	11.1	13.9
	5	31	86.1	86.1	100.0
	Total	36	100.0	100.0	



86% of the principals strongly agreed that parents should be role models for healthy life style.

Parents Role - Keep kids active

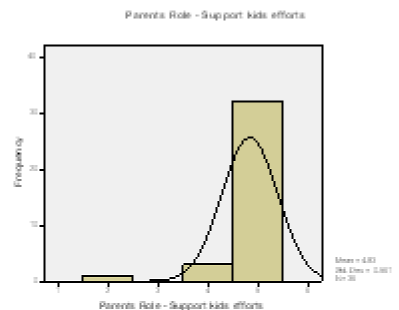
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	1	2.8	2.8	2.8
	4	5	13.9	13.9	16.7
	5	30	83.3	83.3	100.0
	Total	36	100.0	100.0	



83% of the principals strongly agreed that parents should keep kids active.

Parents Role - Support kids efforts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	3	8.3	8.3	11.1
	5	32	88.9	88.9	100.0
	Total	36	100.0	100.0	



89% of the principals strongly agreed that parents should support kids' efforts to be healthy.

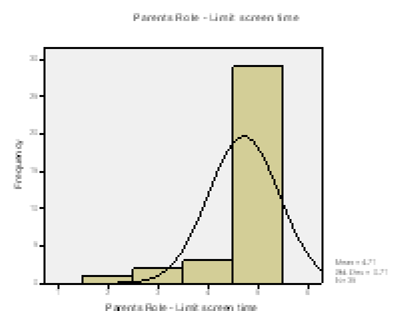
Parents Role - Provide healthy foods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	5	13.9	13.9	16.7
	5	30	83.3	83.3	100.0
	Total	36	100.0	100.0	

83% of the principals strongly agreed that parents should provide healthy foods.

Parents Role - Limit screen time

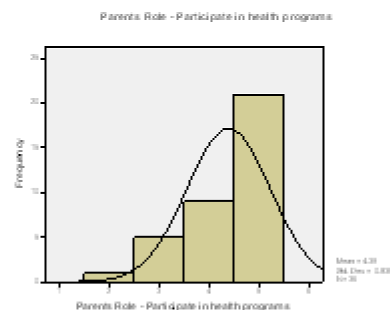
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.9	2.9
	3	2	5.6	5.7	8.6
	4	3	8.3	8.6	17.1
	5	29	80.6	82.9	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		



97% of the principals strongly agreed that parents should Set limits on "screen time" (TV, computer, games) for kids.

Parents Role - Participate in health programs

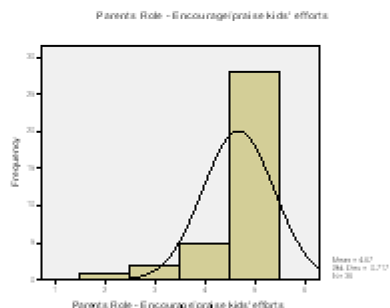
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	5	13.9	13.9	16.7
	4	9	25.0	25.0	41.7
	5	21	58.3	58.3	100.0
	Total	36	100.0	100.0	



58% of the principals strongly agreed that parents should participate in health programs for kids.

Parents Role - Encourage/praise kids' efforts

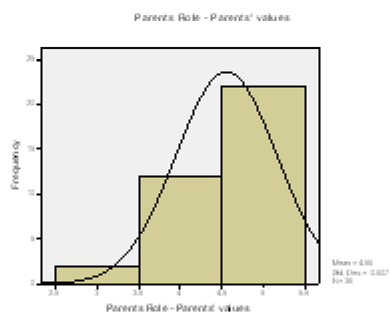
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	2	5.6	5.6	8.3
	4	5	13.9	13.9	22.2
	5	28	77.8	77.8	100.0
	Total	36	100.0	100.0	



78% of the principals strongly agreed that parents should encourage/praise kids' efforts.

Parents Role - Parents' values

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	2	5.6	5.6	5.6
	4	12	33.3	33.3	38.9
	5	22	61.1	61.1	100.0
	Total	36	100.0	100.0	



61% of the principals strongly agreed that what parents value is what kids will value.

What should schools do?

5 = Strongly Agree, 1 = Strongly Disagree

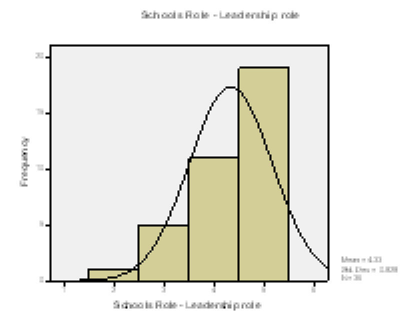
Statistics

		Schools Role - Leadership role	Schools Role - Include nutrition in curriculum	Schools Role - Provide food that meets nutritional standards	Schools Role - Offer fast food choices "a la carte"	Schools Role - Make gym available to families for fitness	Schools Role - Provide PE classes every day	Schools Role - Offer more variety in healthy foods	Schools Role - Offer more variety in foods that kids like	Schools Role - Participate in programs to prevent overweight	Schools Role - Provide fitness tests for children	Schools Role - Send BMI report cards home to parents	Schools Role - Communicate with parents on fitness tests
N	Valid	36	36	36	33	36	36	36	35	36	36	36	36
	Missing	0	0	0	3	0	0	0	1	0	0	0	0
Mean		4.33	4.44	4.69	2.79	3.92	4.28	4.67	4.26	4.33	4.36	3.92	4.28
Median		5.00	5.00	5.00	3.00	4.00	5.00	5.00	4.00	4.50	5.00	4.00	4.00
Mode		5	5	5	1	4	5	5	5	5	5	4[a]	4[a]
Std. Deviation		.828	.809	.624	1.431	.874	.974	.676	.780	.793	.798	.996	.815
Variance		.686	.654	.390	2.047	.764	.949	.457	.608	.629	.637	.993	.663
Range		3	3	3	4	3	4	3	2	3	3	4	3

a. Multiple modes exist. The smallest value is shown

Schools Role - Leadership role

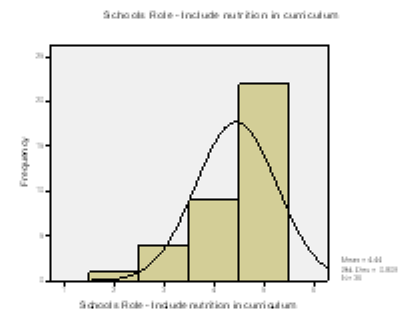
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	5	13.9	13.9	16.7
	4	11	30.6	30.6	47.2
	5	19	52.8	52.8	100.0
	Total	36	100.0	100.0	



53% of the principals strongly agreed that schools should take a leadership role in preventing overweight in children.

Schools Role - Include nutrition in curriculum

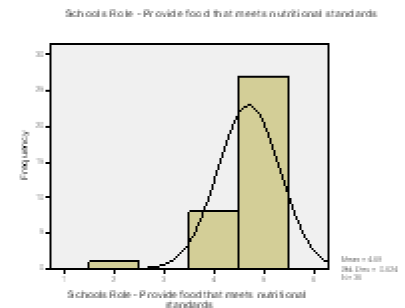
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	4	11.1	11.1	13.9
	4	9	25.0	25.0	38.9
	5	22	61.1	61.1	100.0
	Total	36	100.0	100.0	



61% of the principals strongly agreed that schools should include nutrition in the curriculum.

Schools Role - Provide food that meets nutritional standards

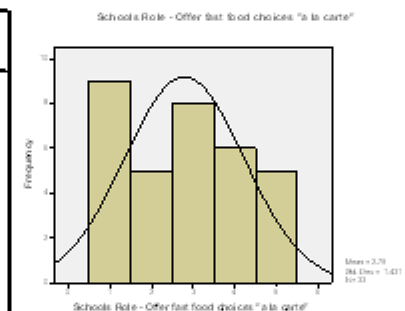
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	4	8	22.2	22.2	25.0
	5	27	75.0	75.0	100.0
	Total	36	100.0	100.0	



75% of the principals strongly agreed that schools should Provide food that meets nutritional standards.

Schools Role - Offer fast food choices "a la carte"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	25.0	27.3	27.3
	2	5	13.9	15.2	42.4
	3	8	22.2	24.2	66.7
	4	6	16.7	18.2	84.8
	5	5	13.9	15.2	100.0
	Total	33	91.7	100.0	
Missing	System	3	8.3		
Total		36	100.0		

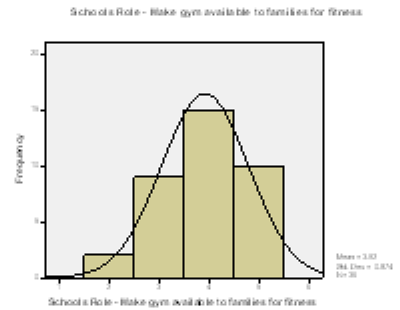


14% of the principals strongly agreed that schools should offer fast food choices "a la carte." 25% strongly disagreed.

Schools Role - Make gym available to families for fitness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	5.6	5.6	5.6
	3	9	25.0	25.0	30.6
	4	15	41.7	41.7	72.2
	5	10	27.8	27.8	100.0
	Total	36	100.0	100.0	

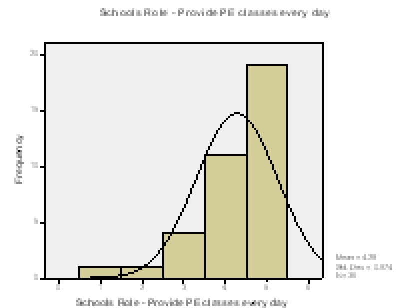
28% of the principals strongly agreed that schools should make school gymnasium available to families as a fitness center.



Schools Role - Provide PE classes every day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	1	2.8	2.8	5.6
	3	4	11.1	11.1	16.7
	4	11	30.6	30.6	47.2
	5	19	52.8	52.8	100.0
	Total	36	100.0	100.0	

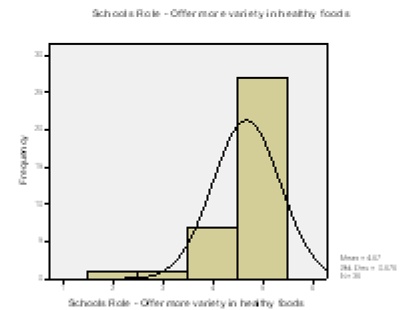
53% of the principals strongly agreed that schools should provide PE classes every day.



Schools Role - Offer more variety in healthy foods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	1	2.8	2.8	5.6
	4	7	19.4	19.4	25.0
	5	27	75.0	75.0	100.0
	Total	36	100.0	100.0	

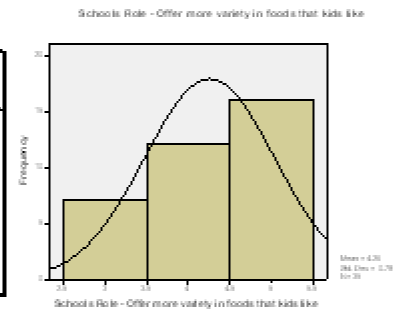
75% of the principals strongly agreed that schools should offer more variety in healthy foods.



Schools Role - Offer more variety in foods that kids like

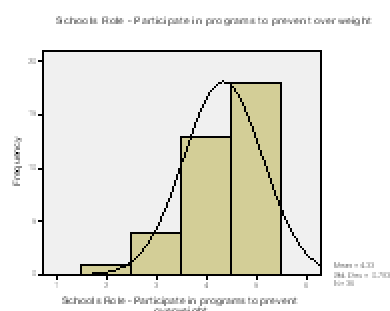
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	7	19.4	20.0	20.0
	4	12	33.3	34.3	54.3
	5	16	44.4	45.7	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		

44% of the principals strongly agreed that schools should Offer more variety in foods that kids like.



Schools Role - Participate in programs to prevent overweight

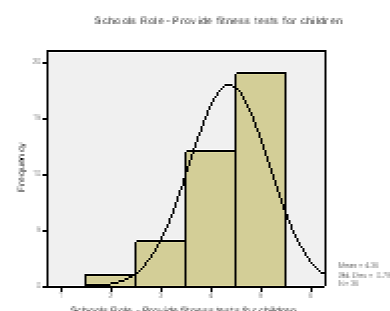
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	4	11.1	11.1	13.9
	4	13	36.1	36.1	50.0
	5	18	50.0	50.0	100.0
	Total	36	100.0	100.0	



50% of the principals strongly agreed that schools should participate in health programs designed to reduce overweight In children.

Schools Role - Provide fitness tests for children

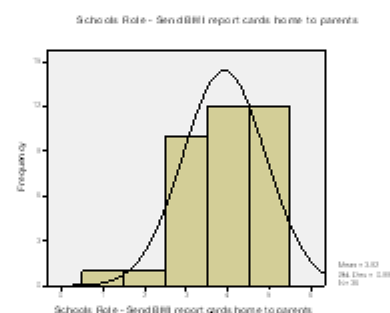
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.8	2.8	2.8
	3	4	11.1	11.1	13.9
	4	12	33.3	33.3	47.2
	5	19	52.8	52.8	100.0
	Total	36	100.0	100.0	



53% of the principals strongly agreed that schools should provide fitness tests for children.

Schools Role - Send BMI report cards home to parents

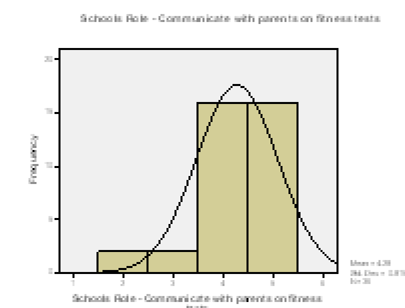
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	1	2.8	2.8	5.6
	3	10	27.8	27.8	33.3
	4	12	33.3	33.3	66.7
	5	12	33.3	33.3	100.0
	Total	36	100.0	100.0	



33% of the principals strongly agreed that schools should send BMI report cards home to parents. 3% strongly disagreed.

Schools Role - Communicate with parents on fitness tests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	5.6	5.6	5.6
	3	2	5.6	5.6	11.1
	4	16	44.4	44.4	55.6
	5	16	44.4	44.4	100.0
	Total	36	100.0	100.0	



44% of the principals strongly agreed that schools should communicate with parents on results of their child's fitness tests.

What are barriers for some children?

5 = Strongly Agree, 1 = Strongly Disagree

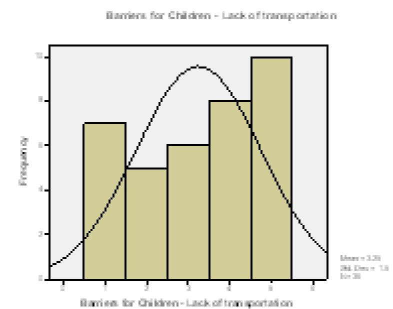
Statistics

		Barriers for Children - Lack of transportation	Barriers for Children - Nutrition not high priority in families	Barriers for Children - After-school programs make too long day	Barriers for Children - Lack of immediate results	Barriers for Children - Lack of parental involvement
N	Valid	36	36	36	36	36
	Missing	0	0	0	0	0
Mean		3.25	3.83	2.50	3.28	3.86
Median		3.50	4.00	2.00	3.00	4.00
Mode		5	4[a]	1	3	5
Std. Deviation		1.500	1.108	1.320	1.111	1.150
Variance		2.250	1.229	1.743	1.235	1.323
Range		4	4	4	4	4

a. Multiple modes exist. The smallest value is shown

Barriers for Children - Lack of transportation

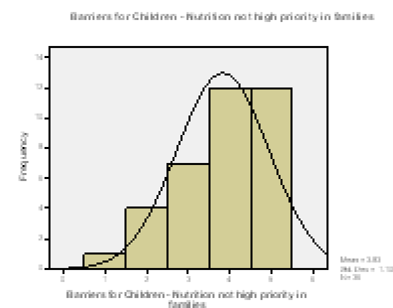
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	19.4	19.4	19.4
	2	5	13.9	13.9	33.3
	3	6	16.7	16.7	50.0
	4	8	22.2	22.2	72.2
	5	10	27.8	27.8	100.0
	Total	36	100.0	100.0	



28% of the principals strongly agreed that lack of transportation is a major factor in the ability of students to participate in school-based nutrition programs. 19% strongly disagreed.

Barriers for Children - Nutrition not high priority in families

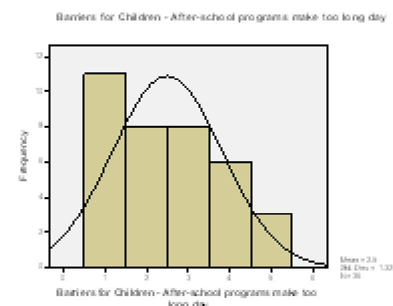
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	4	11.1	11.1	13.9
	3	7	19.4	19.4	33.3
	4	12	33.3	33.3	66.7
	5	12	33.3	33.3	100.0
	Total	36	100.0	100.0	



33% of the principals strongly agreed that nutrition is not a high priority in many families in my school. 3% strongly disagreed.

Barriers for Children - After-school programs make too long day

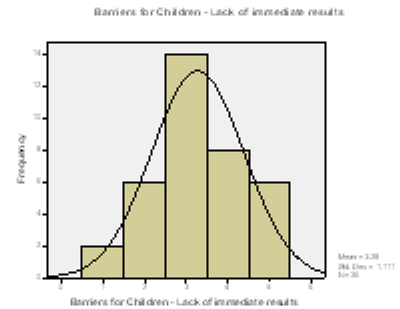
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	30.6	30.6	30.6
	2	8	22.2	22.2	52.8
	3	8	22.2	22.2	75.0
	4	6	16.7	16.7	91.7
	5	3	8.3	8.3	100.0
	Total	36	100.0	100.0	



8% of the principals strongly agreed that after-school programs make the day too long for most children. 31% strongly disagreed.

Barriers for Children - Lack of immediate results

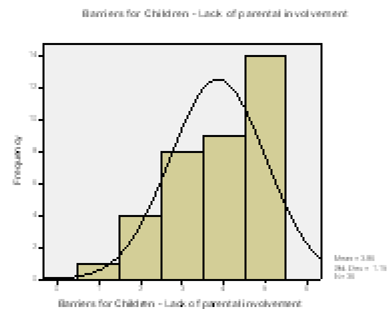
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	5.6	5.6	5.6
	2	6	16.7	16.7	22.2
	3	14	38.9	38.9	61.1
	4	8	22.2	22.2	83.3
	5	6	16.7	16.7	100.0
	Total	36	100.0	100.0	



17% of the principals strongly agreed that lack of immediate results discourages children from consistently participating in health programs. 6% strongly disagreed.

Barriers for Children - Lack of parental involvement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	4	11.1	11.1	13.9
	3	8	22.2	22.2	36.1
	4	9	25.0	25.0	61.1
	5	14	38.9	38.9	100.0
	Total	36	100.0	100.0	



39% of the principals strongly agreed that lack of parental Involvement discourages children from consistently participating in health programs. 3% strongly disagreed.

What are barriers for some parents?

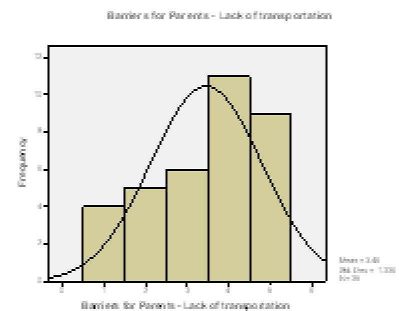
5 = Strongly Agree, 1 = Strongly Disagree

Statistics

		Barriers for Parents - Lack of transportation	Barriers for Parents - Working two jobs or long hours	Barriers for Parents - Competing priorities limit participation	Barriers for Parents - Lack of interest	Barriers for Parents - Parental involvement lower than I would like
N	Valid	35	36	36	36	36
	Missing	1	0	0	0	0
Mean		3.46	3.83	3.64	3.78	3.94
Median		4.00	4.00	4.00	4.00	4.00
Mode		4	5	4	4	5
Std. Deviation		1.336	1.183	1.099	1.124	1.241
Variance		1.785	1.400	1.209	1.263	1.540
Range		4	4	4	4	3

Barriers for Parents - Lack of transportation

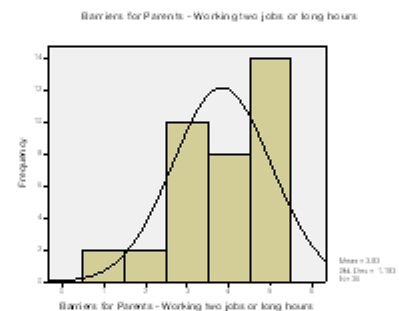
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	11.1	11.4	11.4
	2	5	13.9	14.3	25.7
	3	6	16.7	17.1	42.9
	4	11	30.6	31.4	74.3
	5	9	25.0	25.7	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		



25% of the principals strongly agreed that lack of transportation is a major factor in the ability of parents to participate in school-based health programs. 11% strongly disagreed.

Barriers for Parents - Working two jobs or long hours

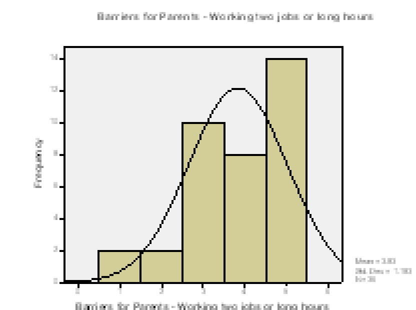
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	5.6	5.6	5.6
	2	2	5.6	5.6	11.1
	3	10	27.8	27.8	38.9
	4	8	22.2	22.2	61.1
	5	14	38.9	38.9	100.0
	Total	36	100.0	100.0	



39% of the principals strongly agreed that working two jobs or long hours prevents parents from participating in school health programs. 6% strongly disagreed.

Barriers for Parents - Competing priorities limit participation

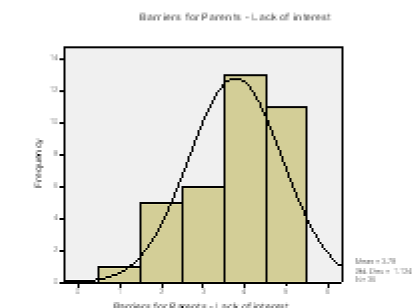
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	5.6	5.6	5.6
	2	3	8.3	8.3	13.9
	3	9	25.0	25.0	38.9
	4	14	38.9	38.9	77.8
	5	8	22.2	22.2	100.0
	Total	36	100.0	100.0	



22% of the principals strongly agreed that many parents of students in my school have competing priorities that prevent or limit participation in school-based health programs. 6% strongly disagreed.

Barriers for Parents - Lack of interest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	5	13.9	13.9	16.7
	3	6	16.7	16.7	33.3
	4	13	36.1	36.1	69.4
	5	11	30.6	30.6	100.0
	Total	36	100.0	100.0	

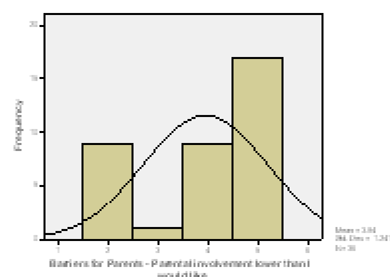


31% of the principals strongly agreed that lack of interest prevents parents from participating in school health programs. 3% strongly disagreed.

Barriers for Parents - Parental involvement lower than I would like

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	9	25.0	25.0	25.0
	3	1	2.8	2.8	27.8
	4	9	25.0	25.0	52.8
	5	17	47.2	47.2	100.0
	Total	36	100.0	100.0	

47% of the principals strongly agreed that parental involvement in my school is lower than I would like.



Rank Order of importance as a factor contributing to childhood overweight

1 = Greatest Effect, 6 = Least Effect

Note: Respondents were asked to rank the following items in order of importance as a factor contributing to childhood overweight, where "1" has the greatest effect of the six items and "6" has the least effect of the six items. They were asked to please circle one number for each item on the list and to use each number only once. Only 20 of 36 respondents did an actual rank order. The data for the 16 respondents who ranked more than one item with the same number are excluded from this ranking data.

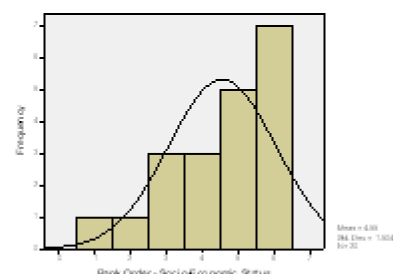
Statistics

		Rank Order - Socio-Economic Status	Rank Order - Nutrition	Rank Order - Genetics	Rank Order - Knowledge/ Attitudes/ Beliefs	Rank Order - Physical Activity	Rank Order - Parental Support
N	Valid	20	20	19	20	20	20
	Missing	0	0	1	0	0	0
Mean		4.55	2.50	4.11	3.65	2.30	3.85
Median		5.00	2.00	4.00	4.00	2.00	4.00
Mode		6	2	4	3[a]	1	3
Std. Deviation		1.504	1.277	1.729	1.309	1.750	1.531
Variance		2.261	1.632	2.988	1.713	3.063	2.345
Range		5	4	5	5	5	5

a. Multiple modes exist. The smallest value is shown

Rank Order - Socio-Economic Status

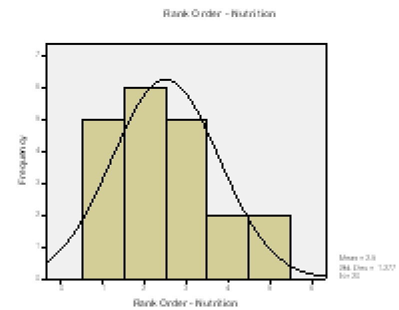
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	1	5.0	5.0	10.0
	3	3	15.0	15.0	25.0
	4	3	15.0	15.0	40.0
	5	5	25.0	25.0	65.0
	6	7	35.0	35.0	100.0
	Total	20	100.0	100.0	



5% of the principals ranked SES as having the greatest effect on childhood overweight.
35% of the principals ranked SES as having the least effect on childhood overweight.

Rank Order - Nutrition

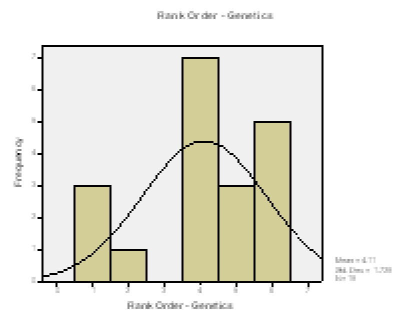
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	25.0	25.0	25.0
	2	6	30.0	30.0	55.0
	3	5	25.0	25.0	80.0
	4	2	10.0	10.0	90.0
	5	2	10.0	10.0	100.0
	Total	20	100.0	100.0	



25% of the principals ranked Nutrition as having the greatest effect on childhood overweight.
10% of the principals ranked Nutrition as having a lesser effect on childhood overweight.

Rank Order - Genetics

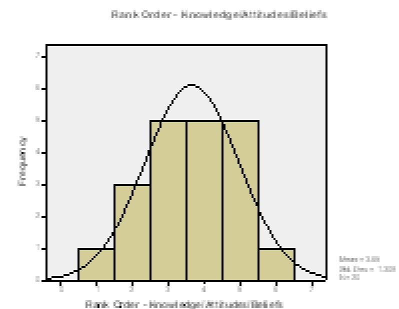
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	15.0	15.8	15.8
	2	1	5.0	5.3	21.1
	4	7	35.0	36.8	57.9
	5	3	15.0	15.8	73.7
	6	5	25.0	26.3	100.0
	Total	19	95.0	100.0	
Missing	System	1	5.0		
Total		20	100.0		



15% of the principals ranked Genetics as having the greatest effect on childhood overweight.
25% of the principals ranked Genetics as having the least effect on childhood overweight.

Rank Order - Knowledge/Attitudes/Beliefs

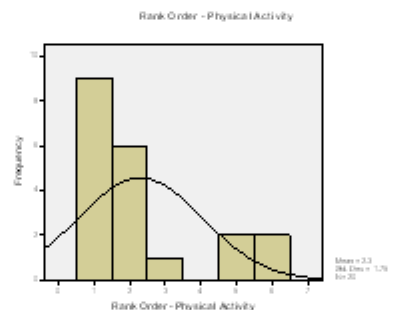
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	3	15.0	15.0	20.0
	3	5	25.0	25.0	45.0
	4	5	25.0	25.0	70.0
	5	5	25.0	25.0	95.0
	6	1	5.0	5.0	100.0
	Total	20	100.0	100.0	



5% of the principals ranked Knowledge as having the greatest effect on childhood overweight.
5% of the principals ranked Knowledge as having the least effect on childhood overweight.

Rank Order - Physical Activity

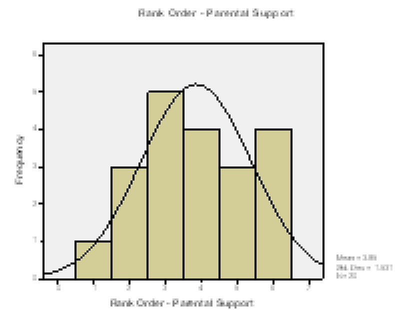
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	45.0	45.0	45.0
	2	6	30.0	30.0	75.0
	3	1	5.0	5.0	80.0
	5	2	10.0	10.0	90.0
	6	2	10.0	10.0	100.0
	Total	20	100.0	100.0	



45% of the principals ranked Physical Activity as having the greatest effect on childhood overweight.
10% of the principals ranked Physical Activity as having the least effect on childhood overweight.

Rank Order - Parental Support

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	5.0	5.0	5.0
	2	3	15.0	15.0	20.0
	3	5	25.0	25.0	45.0
	4	4	20.0	20.0	65.0
	5	3	15.0	15.0	80.0
	6	4	20.0	20.0	100.0
	Total	20	100.0	100.0	



5% of the principals ranked Parental Support as having the greatest effect on childhood overweight.
20% of the principals ranked Parental Support as having the least effect on childhood overweight.

As an elementary school principal, what can I do?

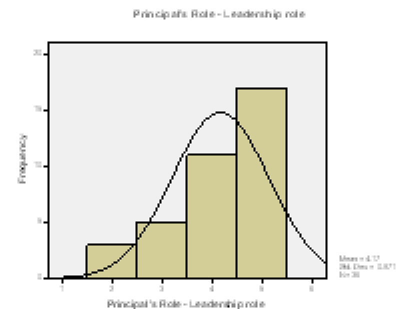
5 = Strongly Agree, 1 = Strongly Disagree

Statistics

		Principal's Role - Leadership role	Principal's Role - Set policy related to overweight prevention	Principal's Role - Influence policy related to overweight prevention	Principal's Role - Not within my sphere of influence	Principal's Role - My school participates in a school health pgm	Principal's Role - I would like for my school to participate in pgm
N	Valid	36	36	36	36	36	32
	Missing	0	0	0	0	0	4
Mean		4.17	3.39	3.81	3.33	4.11	4.13
Median		4.00	3.00	4.00	3.00	4.00	4.00
Mode		5	3	5	4	4	5
Std. Deviation		.971	1.050	1.142	1.042	1.116	1.070
Variance		.943	1.102	1.304	1.086	1.244	1.145
Range		3	4	4	4	4	4

Principal's Role - Leadership role

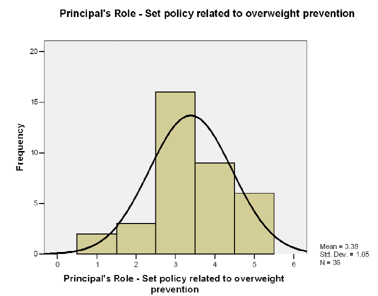
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	3	8.3	8.3	8.3
	3	5	13.9	13.9	22.2
	4	11	30.6	30.6	52.8
	5	17	47.2	47.2	100.0
	Total	36	100.0	100.0	



47% of the principals strongly agreed that a principal can take a leadership role in preventing overweight in children.

Principal's Role - Set policy related to overweight prevention

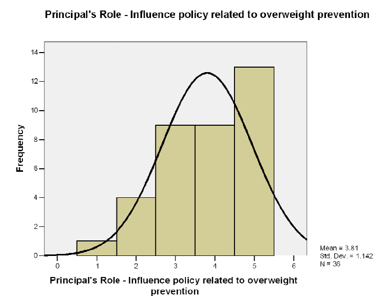
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	5.6	5.6	5.6
	2	3	8.3	8.3	13.9
	3	16	44.4	44.4	58.3
	4	9	25.0	25.0	83.3
	5	6	16.7	16.7	100.0
	Total	36	100.0	100.0	



17% of the principals strongly agreed that a principal can set policy related to prevention. 6% of the principals strongly disagreed .

Principal's Role - Influence policy related to overweight prevention

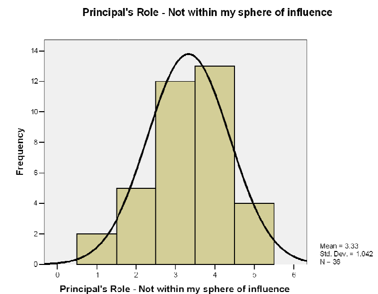
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	2.8	2.8
	2	4	11.1	11.1	13.9
	3	9	25.0	25.0	38.9
	4	9	25.0	25.0	63.9
	5	13	36.1	36.1	100.0
	Total	36	100.0	100.0	



36% of the principals strongly agreed that a principal can influence policy related to prevention. 3% of the principals strongly disagreed.

Principal's Role - Within my sphere of influence

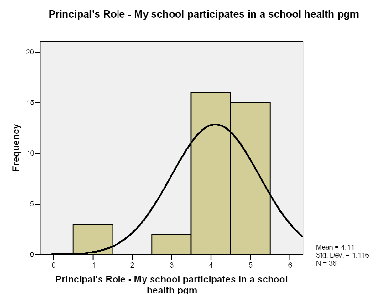
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	5.6	5.6	5.6
	2	5	13.9	13.9	19.4
	3	12	33.3	33.3	52.8
	4	13	36.1	36.1	88.9
	5	4	11.1	11.1	100.0
	Total	36	100.0	100.0	



11% of the principals strongly agreed that overweight prevention is within their sphere of influence. 6% of the principals strongly disagreed.

Principal's Role - My school participates in a school health pgm

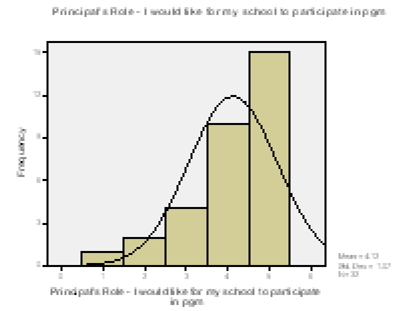
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	8.3	8.3	8.3
	3	2	5.6	5.6	13.9
	4	16	44.4	44.4	58.3
	5	15	41.7	41.7	100.0
	Total	36	100.0	100.0	



42% of the principals strongly agreed that their school participates in a school health program. 8% of the principals strongly disagreed.

Principal's Role - I would like for my school to participate in pgm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	3.1	3.1
	2	2	5.6	6.3	9.4
	3	4	11.1	12.5	21.9
	4	10	27.8	31.3	53.1
	5	15	41.7	46.9	100.0
	Total	32	88.9	100.0	
Missing	System	4	11.1		
Total		36	100.0		



42% of the principals strongly agreed that they would like their school to participate in a health program. 3% of the principals strongly disagreed.

Readiness for Change: When it comes to preventing overweight in students in my school:

Statistics

		Ready for Change - Not ready to think about it yet	Ready for Change - Beginning to think about the issue	Ready for Change - Making an action plan for coming year	Ready for Change - Already have a plan in place; taking action	Ready for Change - Measuring results and seeing progress	Ready for Change - This issue is not an important part of my role
N	Valid	0	13	5	13	5	1
	Missing	36	23	31	23	31	35
Mean			1.00	1.00	1.00	1.00	1.00
Median			1.00	1.00	1.00	1.00	1.00
Mode			1	1	1	1	1
Std. Deviation			.000	.000	.000	.000	
Variance			.000	.000	.000	.000	
Range			0	0	0	0	0

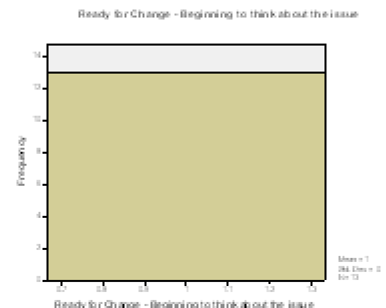
Ready for Change - Not ready to think about it yet

		Frequency	Percent
Missing	System	36	100.0

There were no responses for "Not ready to think about it yet.

Ready for Change - Beginning to think about the issue

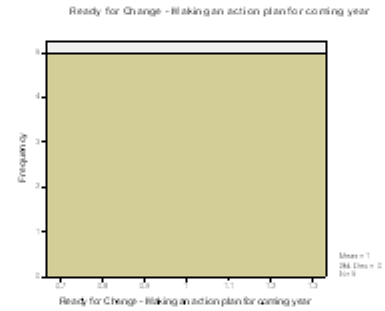
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	36.1	100.0	100.0
Missing	System	23	63.9		
Total		36	100.0		



36% of the principals circled "I am beginning to think about the issue."

Ready for Change - Making an action plan for coming year

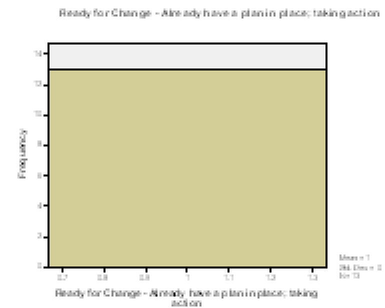
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	13.9	100.0	100.0
Missing	System	31	86.1		
Total		36	100.0		



14% of the principals circled "Making an action plan for the coming year."

Ready for Change - Already have a plan in place; taking action

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	36.1	100.0	100.0
Missing	System	23	63.9		
Total		36	100.0		



36% of the principals circled "Already have a plan in place; Taking action."

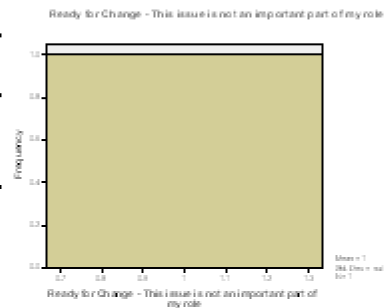
Ready for Change - Measuring results and seeing progress

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	13.9	100.0	100.0
Missing	System	31	86.1		
Total		36	100.0		

14% of the principals circled "Measuring results and seeing Progress."

Ready for Change - This issue is not an important part of my role

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.8	100.0	100.0
Missing	System	35	97.2		
Total		36	100.0		



3% of the principals circled "This issue is not an important part of my role."

Demographics

1 = Greatest Effect, 6 = Least Effect

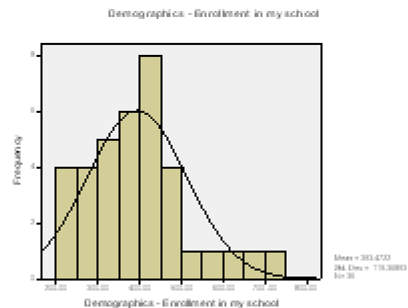
Statistics

		Demographics - Enrollment in my school	Demographics - Percentage of free/reduced lunch	Demographics - Percentage African American	Demographics - Percentage Hispanic	Demographics - Percentage White	Demographics - Percentage Native American	Demographics - Percentage Asian	Demographics - My ethnicity	Demographics - My gender	Demographics - My estimate of at risk of overweight	Demographics - My estimate of overweight among my students
N	Valid	36	36	36	35	35	34	33	35	36	29	27
	Missing	0	0	0	1	1	2	3	1	0	7	9
Mean		393.4722	74.1444	34.1444	17.2486	38.8686	10.5294	1.1788	2.8857	1.7222	26.5862	20.3704
Median		393.0000	80.0000	23.3000	10.4000	40.0000	9.2000	1.0000	3.0000	2.0000	20.0000	15.0000
Mode		375.00[a]	80.00[a]	13.00	30.00	1.00[a]	2.00[a]	.00	3.00	2.00	10.00	20.00
Std. Deviation		119.36893	23.09699	29.75864	15.84893	24.34950	7.03513	1.07812	.63113	.45426	20.64239	19.14750
Variance		14248.942	533.471	885.577	251.188	592.898	49.493	1.162	.398	.206	426.108	366.627
Range		513.00	80.00	96.00	56.50	89.50	30.00	4.00	3.00	1.00	69.00	79.00

a. Multiple modes exist. The smallest value is shown

Demographics - Enrollment in my school

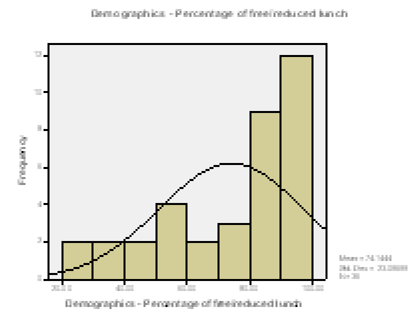
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	210.00	1	2.8	2.8	2.8
	220.00	1	2.8	2.8	5.6
	230.00	1	2.8	2.8	8.3
	240.00	1	2.8	2.8	11.1
	251.00	1	2.8	2.8	13.9
	270.00	1	2.8	2.8	16.7
	277.00	1	2.8	2.8	19.4
	295.00	1	2.8	2.8	22.2
	300.00	1	2.8	2.8	25.0
	313.00	1	2.8	2.8	27.8
	316.00	1	2.8	2.8	30.6
	325.00	1	2.8	2.8	33.3
	334.00	1	2.8	2.8	36.1
	350.00	1	2.8	2.8	38.9
	375.00	2	5.6	5.6	44.4
	380.00	1	2.8	2.8	47.2
	390.00	1	2.8	2.8	50.0
	396.00	1	2.8	2.8	52.8
	400.00	2	5.6	5.6	58.3
	430.00	2	5.6	5.6	63.9
	433.00	2	5.6	5.6	69.4
	435.00	1	2.8	2.8	72.2
	437.00	1	2.8	2.8	75.0
	450.00	1	2.8	2.8	77.8
	460.00	1	2.8	2.8	80.6
	465.00	1	2.8	2.8	83.3
	495.00	1	2.8	2.8	86.1
	510.00	1	2.8	2.8	88.9
	562.00	1	2.8	2.8	91.7
	605.00	1	2.8	2.8	94.4
	650.00	1	2.8	2.8	97.2
	723.00	1	2.8	2.8	100.0
	Total	36	100.0	100.0	



Enrollment in the schools ranges from 210 to 723.

Demographics - Percentage of free/reduced lunch

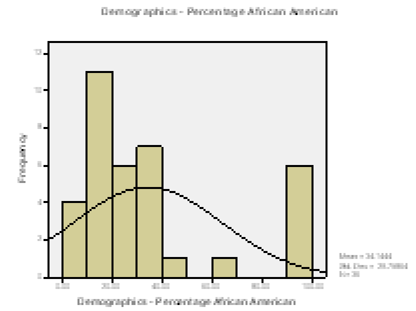
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00	1	2.8	2.8	2.8
	21.00	1	2.8	2.8	5.6
	35.00	2	5.6	5.6	11.1
	45.00	1	2.8	2.8	13.9
	49.00	1	2.8	2.8	16.7
	50.00	1	2.8	2.8	19.4
	52.00	1	2.8	2.8	22.2
	56.00	1	2.8	2.8	25.0
	57.20	1	2.8	2.8	27.8
	64.00	1	2.8	2.8	30.6
	69.00	1	2.8	2.8	33.3
	70.00	1	2.8	2.8	36.1
	72.00	1	2.8	2.8	38.9
	78.00	1	2.8	2.8	41.7
	80.00	4	11.1	11.1	52.8
	85.00	4	11.1	11.1	63.9
	87.00	1	2.8	2.8	66.7
	90.00	1	2.8	2.8	69.4
	91.00	1	2.8	2.8	72.2
	92.00	1	2.8	2.8	75.0
	94.00	2	5.6	5.6	80.6
	96.00	1	2.8	2.8	83.3
	97.00	2	5.6	5.6	88.9
	98.00	1	2.8	2.8	91.7
	100.00	3	8.3	8.3	100.0
	Total	36	100.0	100.0	



The percentage of free and reduced lunch in my school ranges from 20% to 100%.

Demographics - Percentage African American

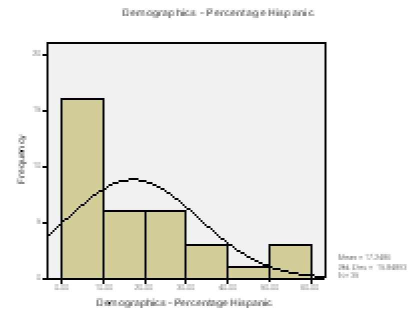
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00	1	2.8	2.8	2.8
	4.00	1	2.8	2.8	5.6
	5.30	1	2.8	2.8	8.3
	7.00	1	2.8	2.8	11.1
	10.40	1	2.8	2.8	13.9
	10.90	1	2.8	2.8	16.7
	13.00	3	8.3	8.3	25.0
	14.00	2	5.6	5.6	30.6
	16.00	1	2.8	2.8	33.3
	17.00	1	2.8	2.8	36.1
	17.80	1	2.8	2.8	38.9
	19.00	1	2.8	2.8	41.7
	20.00	2	5.6	5.6	47.2
	22.00	1	2.8	2.8	50.0
	24.60	1	2.8	2.8	52.8
	25.70	1	2.8	2.8	55.6
	28.30	1	2.8	2.8	58.3
	30.00	2	5.6	5.6	63.9
	30.30	1	2.8	2.8	66.7
	34.90	1	2.8	2.8	69.4
	37.00	2	5.6	5.6	75.0
	38.00	1	2.8	2.8	77.8
	48.00	1	2.8	2.8	80.6
	65.00	1	2.8	2.8	83.3
	90.00	2	5.6	5.6	88.9
	92.00	1	2.8	2.8	91.7
	94.00	1	2.8	2.8	94.4
	96.00	1	2.8	2.8	97.2
	99.00	1	2.8	2.8	100.0
	Total	36	100.0	100.0	



The percentage of African American students ranges from 3% to 99%.

Demographics - Percentage Hispanic

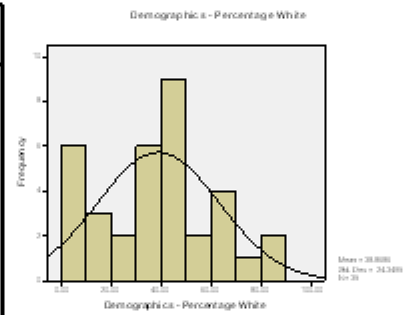
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.50	1	2.8	2.9	2.9
	1.00	1	2.8	2.9	5.7
	2.00	2	5.6	5.7	11.4
	3.00	2	5.6	5.7	17.1
	3.70	1	2.8	2.9	20.0
	4.00	1	2.8	2.9	22.9
	5.00	2	5.6	5.7	28.6
	7.00	1	2.8	2.9	31.4
	7.10	1	2.8	2.9	34.3
	7.40	1	2.8	2.9	37.1
	7.70	1	2.8	2.9	40.0
	8.60	1	2.8	2.9	42.9
	9.00	1	2.8	2.9	45.7
	10.00	1	2.8	2.9	48.6
	10.40	1	2.8	2.9	51.4
	10.50	1	2.8	2.9	54.3
	11.00	1	2.8	2.9	57.1
	11.50	1	2.8	2.9	60.0
	16.40	1	2.8	2.9	62.9
	23.90	1	2.8	2.9	65.7
	27.70	1	2.8	2.9	68.6
	28.00	2	5.6	5.7	74.3
	28.30	1	2.8	2.9	77.1
	29.00	1	2.8	2.9	80.0
	30.00	3	8.3	8.6	88.6
	44.00	1	2.8	2.9	91.4
	50.00	1	2.8	2.9	94.3
	52.00	1	2.8	2.9	97.1
	57.00	1	2.8	2.9	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		



The percentage of Hispanic students ranges from 0.5% to 57%.

Demographics - Percentage White

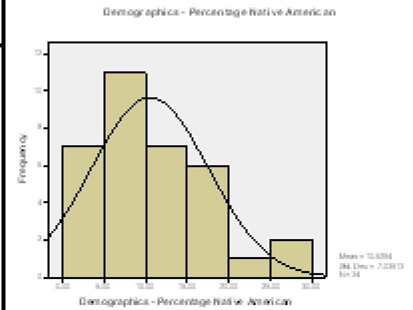
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.50	1	2.8	2.9	2.9
	1.00	2	5.6	5.7	8.6
	4.00	1	2.8	2.9	11.4
	5.00	1	2.8	2.9	14.3
	6.00	1	2.8	2.9	17.1
	14.00	1	2.8	2.9	20.0
	15.00	1	2.8	2.9	22.9
	19.00	1	2.8	2.9	25.7
	25.00	1	2.8	2.9	28.6
	26.00	1	2.8	2.9	31.4
	30.00	1	2.8	2.9	34.3
	34.00	1	2.8	2.9	37.1
	34.30	1	2.8	2.9	40.0
	34.40	1	2.8	2.9	42.9
	38.00	1	2.8	2.9	45.7
	38.60	1	2.8	2.9	48.6
	40.00	2	5.6	5.7	54.3
	45.00	1	2.8	2.9	57.1
	45.90	1	2.8	2.9	60.0
	46.40	2	5.6	5.7	65.7
	47.00	1	2.8	2.9	68.6
	47.70	1	2.8	2.9	71.4
	49.00	1	2.8	2.9	74.3
	56.00	1	2.8	2.9	77.1
	57.00	1	2.8	2.9	80.0
	62.00	1	2.8	2.9	82.9
	64.70	1	2.8	2.9	85.7
	64.90	1	2.8	2.9	88.6
	69.60	1	2.8	2.9	91.4
	73.00	1	2.8	2.9	94.3
	90.00	2	5.6	5.7	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		



The percentage of White students ranges from 0.5% to 90%.

Demographics - Percentage Native American

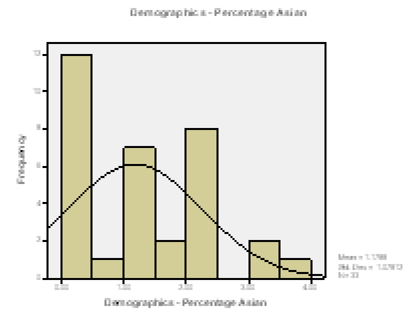
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	1	2.8	2.9	2.9
	1.00	2	5.6	5.9	8.8
	2.00	3	8.3	8.8	17.6
	3.00	1	2.8	2.9	20.6
	6.80	1	2.8	2.9	23.5
	7.30	1	2.8	2.9	26.5
	7.60	1	2.8	2.9	29.4
	7.80	1	2.8	2.9	32.4
	8.00	2	5.6	5.9	38.2
	8.30	1	2.8	2.9	41.2
	8.50	1	2.8	2.9	44.1
	9.00	2	5.6	5.9	50.0
	9.40	1	2.8	2.9	52.9
	10.00	3	8.3	8.8	61.8
	11.00	1	2.8	2.9	64.7
	12.00	1	2.8	2.9	67.6
	12.20	1	2.8	2.9	70.6
	14.60	1	2.8	2.9	73.5
	15.00	1	2.8	2.9	76.5
	16.00	1	2.8	2.9	79.4
	17.00	3	8.3	8.8	88.2
	17.40	1	2.8	2.9	91.2
	22.10	1	2.8	2.9	94.1
	26.00	1	2.8	2.9	97.1
	30.00	1	2.8	2.9	100.0
	Total	34	94.4	100.0	
Missing	System	2	5.6		
Total		36	100.0		



The percentage of Native American students ranges from 0% to 30%.

Demographics - Percentage Asian

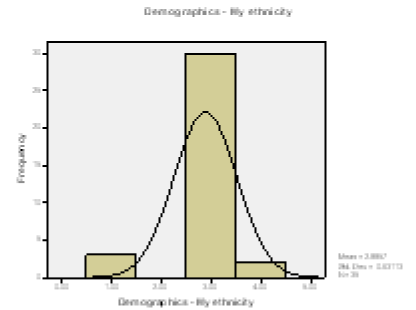
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	10	27.8	30.3	30.3
	.30	2	5.6	6.1	36.4
	.80	1	2.8	3.0	39.4
	1.00	5	13.9	15.2	54.5
	1.30	1	2.8	3.0	57.6
	1.40	1	2.8	3.0	60.6
	1.60	1	2.8	3.0	63.6
	1.70	1	2.8	3.0	66.7
	2.00	6	16.7	18.2	84.8
	2.20	1	2.8	3.0	87.9
	2.30	1	2.8	3.0	90.9
	3.00	2	5.6	6.1	97.0
	4.00	1	2.8	3.0	100.0
	Total	33	91.7	100.0	
Missing	System	3	8.3		
Total		36	100.0		



The percentage of Asian students ranges from 0% to 4%.

Demographics - My ethnicity

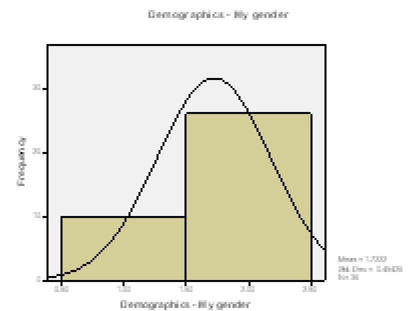
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	African America	3	8.3	8.6	8.6
	White	30	83.3	85.7	94.3
	Native American	2	5.6	5.7	100.0
	Total	35	97.2	100.0	
Missing	System	1	2.8		
Total		36	100.0		



The ethnicity of principals is 8% African American, 83% White, 6% Native American.

Demographics - My gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	10	27.8	27.8	27.8
	Female	26	72.2	72.2	100.0
	Total	36	100.0	100.0	

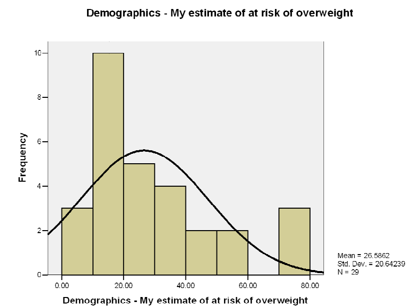


The gender of principals is 28% male, 72% female.

My estimate of overweight among my students is:

Demographics - My estimate of at risk of overweight

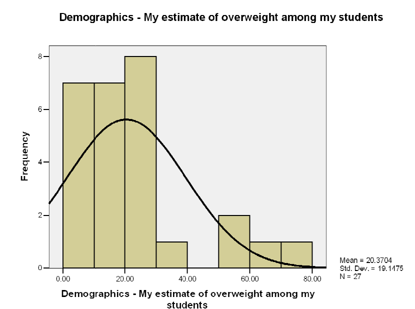
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6.00	1	2.8	3.4	3.4
	7.00	2	5.6	6.9	10.3
	10.00	7	19.4	24.1	34.5
	12.00	1	2.8	3.4	37.9
	15.00	2	5.6	6.9	44.8
	20.00	3	8.3	10.3	55.2
	24.00	1	2.8	3.4	58.6
	25.00	1	2.8	3.4	62.1
	30.00	2	5.6	6.9	69.0
	35.00	2	5.6	6.9	75.9
	40.00	2	5.6	6.9	82.8
	50.00	2	5.6	6.9	89.7
	70.00	1	2.8	3.4	93.1
	75.00	2	5.6	6.9	100.0
	Total	29	80.6	100.0	
Missing	System	7	19.4		
Total		36	100.0		



Among principals, “My estimate of at risk overweight among my students” ranges from 6% to 75%”, where at risk of overweight is BMI > 85th percentile for age and gender.

Demographics - My estimate of overweight among my students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	1	2.8	3.7	3.7
	5.00	5	13.9	18.5	22.2
	8.00	1	2.8	3.7	25.9
	10.00	6	16.7	22.2	48.1
	15.00	1	2.8	3.7	51.9
	20.00	7	19.4	25.9	77.8
	25.00	1	2.8	3.7	81.5
	36.00	1	2.8	3.7	85.2
	50.00	2	5.6	7.4	92.6
	60.00	1	2.8	3.7	96.3
	80.00	1	2.8	3.7	100.0
	Total	27	75.0	100.0	
Missing	System	9	25.0		
Total		36	100.0		



Among principals, “My estimate of overweight among my students” ranges from 1% to 80%”, where overweight is BMI > 95th percentile for age and gender.

Other Issues

Other Issues/concerns you have related to childhood overweight

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		24	66.7	66.7	66.7
	* self-esteem, * lack of leadership, * attitude to keep working, * develop better work habits, * completing task. Respect with others & self.	1	2.8	2.8	69.4
	1. Education of parents 2. Knowing boundaries of what we are able to do. 3. What research says is best to do.	1	2.8	2.8	72.2
	1.Social/emotional stress due to weight. Confidence 2. Relationships with peers. 3. Increased risk for injury. 4. Related health issues diabetes. Blood pressure etc.	1	2.8	2.8	75.0
	Access to grocery stores that sell produce is limited in the neighborhood. Language barriers and cultural differences mean communication is challenging.	1	2.8	2.8	77.8
	All schools should receive funding and an extension of the school day to ensure daily physical education classes with qualified teachers and dynamic programs/activities.	1	2.8	2.8	80.6
	Cafeterias serve food with red artificial coloring which stimulates hyperactivity in children. Baked fire Lays Cheetos, red jello	1	2.8	2.8	83.3
	I believe most overweighjt children have a genetic pre-disposition.	1	2.8	2.8	86.1
	injuries, disease, social concerns, self-concept	1	2.8	2.8	88.9
	Longer school day	1	2.8	2.8	91.7
	Poverty	1	2.8	2.8	94.4
	price of fruits and vegetagles, knowledge of what is "healthy food"	1	2.8	2.8	97.2
	Students being active after school.	1	2.8	2.8	100.0
	Total	36	100.0	100.0	

Eight of the principals answered the open-ended question “What other issues or concerns do you have related to childhood overweight?

APPENDIX K

COST ANALYSIS

FOR PRINCIPAL SURVEY

Estimated vs. Actual 2008 Expense Narrative

Category:	Estimated	Actual
A. Salaries and Wages		
Project Director/Primary Investigator	$ 818	$ 0

Personnel expenses were estimated as though the project would be externally funded. The estimate is based on 10% of time x 3 mo x $2,727/month for a PhD level graduate student. The project, however, did not receive external funding and no salaries were charged to the project.

B. Fringe Benefits	$ 65	$ 0

Fringe benefits were calculated at 7.94% (0.0794) for graduate students, but no fringe benefits were charged to the project.

C. Materials and Supplies	$ 38	$ 50

Materials and supplies includes self-seal Avery mailers, #10 envelopes, #9 enclosure envelopes, duplication of questionnaires and results, and purchase of audio tapes.

D. Travel	$ 0	$ 0

No travel was budgeted or incurred on this project.

E. Publication Costs	$ 0	$ 0

No publication costs were budgeted or incurred on this project.

F. Equipment Costs (items over $5,000)	$ 0	$ 0

No equipment costs were budgeted or incurred on this project.

G. Other	$ 728	$ 884

An incentive of $20 for returning a completed survey was offered to principals.

My advisor, Dr. Kennedy, earmarked $600 from her budget, assuming a 50%

return rate, to cover incentive payments to Principal Survey participants. Actual incentive payments were $720 for a 61% return rate. Incentives for The twelve interviewees consisted of $20 QuikTrip gascards provided, in kind, by the Tulsa Health Department. Postage was estimated to be $128 including the announcement letter, survey packet with stamped, self-addressed enclosure return envelope, up to three reminders for non-respondents, and a thank-you letter with check enclosed for participants. Actual postage was $164. Postage was higher than expected due to lower than expected early return rate requiring more reminder notices and unexpected requests for a second copy of the survey (including stamped return envelope) to replace ones that had been "misplaced" or "never received." As a class project, postage was paid by the class member.

H. Total Direct Costs	$ 1,649	$ 884
Total A-G		
I. Total Facilities & Administration Costs	$ 765 $	$ 0

F&A costs were estimated as 46.4% of Total Direct Costs. Without external funding, however, this project was treated as a class project. No facilities and administration costs were charged to the project.

Total Project Costs	$ 2,414	$ 884

APPENDIX L

PRINCIPAL'S CONSENT FORM

FOR INTERVIEWS

PRINCIPAL'S CONSENT FORM

To Whom it May Concern:

I give my consent to Norma DeVault, a graduate student from Oklahoma State University's Department of Nutritional Sciences, to collect data from a teacher and a parent of fourth or fifth grade classes at my elementary school this academic year. I understand that the study will be reviewed by the university's Institutional Review Board and that informed consent will be obtained from teachers and parents. Research Assistants will be required to check in at the office upon entering and leaving the school and teachers' schedules will be honored. Any questions will be addressed to Norma DeVault as they arise. She can be reached at (918) 744-6489.

______________________________ __________________________

Principal's Signature Date

____

Elementary School

APPENDIX M

COVER LETTER FOR

INFORMED CONSENT FORM

Cover Letter for Informed Consent Form

Hello!

I am a graduate student at Oklahoma State University. I would like to invite you to take part in a project to find out the attitudes and beliefs of parents and teachers about childhood overweight and school-based nutrition and activity programs.

You will be interviewed for one hour. Your answers to interview questions will remain confidential. Names will not be recorded with the data. You may drop out at any time with no penalty.

Please read the attached consent form and sign it if you are willing to participate in this study. If you do not want to participate, please do not return the form.

Thank you!

Norma DeVault
OSU Graduate Student

APPENDIX N

CONSENT FORM FOR PARENTS AND TEACHERS

OF 4th or 5th GRADE STUDENTS

CONSENT FORM for PARENTS and TEACHERS of 4th or 5th GRADE STUDENTS

PROJECT TITLE: Parent and Teacher Attitudes and Beliefs Concerning Elementary School-based Childhood Overweight Prevention in Tulsa, Oklahoma

INVESTIGATOR: Norma DeVault, Oklahoma State University graduate student.

PURPOSE: The purpose of the research study is to explore attitudes and beliefs about childhood overweight and school-based nutrition and activity programs.

You qualify for the study if you are the single parent or teacher of a fourth grade or fifth grade African American child in a Title I school.

PROCEDURES:
If you decide to participate in this project, you will be asked to participate in the following way:

a.) **You will be interviewed one time about your attitudes and beliefs concerning the factors that contribute to childhood overweight and the role of school-based nutrition and physical activity programs in preventing overweight in elementary school children.**
b.) **The interview will take one hour, and will be scheduled at your convenience.**
c.) **An audio tape of the interview will be used to facilitate note-taking.**

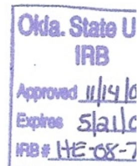
Benefits of Participation
The benefits of participating in the study are as follows:

- The interviews will yield formative data on attitudes and beliefs toward school-based nutrition and activity programs and readiness of stakeholders to take action to prevent childhood overweight.
- Participation will provide data that can be used in designing focus groups to explore stakeholder attitudes and beliefs concerning childhood overweight, in determining readiness of stakeholders to take action, and in designing programming to prevent childhood overweight.

Your participation will provide useful information on these topics. The findings from this project will contribute to future programs aimed to improve children's health by building healthy habits for a lifetime.

Compensation
You will be compensated ($20) for your time. No additional incentive is being offered for participation.

Risks of Participation



The risks to you are minimal. If you are uncomfortable with answering any question during the interview, you may skip the question or withdraw from the procedure at that point with absolutely no penalty.

Confidentiality

All information about you will remain confidential and will not be released. Information we collect will be recorded with an identification number, and names will not be kept with the files after the ID is assigned. All information and audio tapes will be kept in a secure place that is open only to the researchers and their assistants. This information will be saved as long as it is scientifically useful; typically, such information is kept for five years. Audio tapes will then be shredded at Oklahoma State University. Results from this study may be used in a dissertation. Any written results will discuss group findings, not information identifying individual parents or teachers.

Participant rights

Participation is voluntary. There is no penalty for refusal to participate, and participants are free to withdraw their consent and participation in this project at any time, without penalty and without affecting the services received from the school or from Oklahoma State University.

How not to participate

If you do not want to participate in the interview, simply do not sign and return this form.

Investigator termination of participation

There are several situations in which your participation may be discontinued by the research staff, for example, completion of the project.

Contacts:

If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-1676 or irb@okstate.edu

If you have any questions about this research project, you may contact Tay Kennedy, Nutritional Sciences, Oklahoma State University, (405) 744-5965. You may also contact the principal investigator, Norma DeVault, a graduate student at Oklahoma State University, Nutritional Sciences Department, (918) 744-6489.

I agree to participate in an interview for this project.

____________________________ ________________________

Signature Date

VITA

Norma Jean DeVault

Candidate for the Degree of

Doctor of Philosophy

Dissertation: SINGLE PARENTS, TEACHERS, AND PRINCIPALS OF 4th and 5th GRADE AFRICAN AMERICAN STUDENTS IN TITLE I SCHOOLS: CONCERNS RELATED TO CHILDHOOD OVERWEIGHT IN TULSA, OKLAHOMA

Major Field: Nutrition

Biographical:

Education: Bachelor of Science, Mathematics, University of Tulsa, Tulsa, Oklahoma, December, 1969. Master of Business Administration, University of Tulsa, Tulsa, Oklahoma, December, 1992. Master of Science, Nutrition, Oklahoma State University, Stillwater, Oklahoma, December, 2006. Completed the requirements for the Doctor of Philosophy degree, Human Environmental Sciences (with emphasis on Nutrition), at Oklahoma State University, July, 2009.

Experience: Information Technology systems analysis, supervision, and departmental management; Seismograph Service Corporation, Pan American Petroleum Company, The Williams Companies, Amoco Production Company, Amoco Corporation, BP Amoco, 1969-2000. Lecturer, Oklahoma State University, 2006-2007. Nutritional Counseling, Registered Dietitian private practice, 2006 – present.

Professional Memberships: American Dietetic Association, Oklahoma Dietetic Association, Tulsa District Dietetic Association

Name: Norma DeVault Date of Degree: July, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: SINGLE PARENTS, TEACHERS, AND PRINCIPALS OF 4th and 5th GRADE AFRICAN AMERICAN STUDENTS IN TITLE I SCHOOLS: CONCERNS RELATED TO CHILDHOOD OVERWEIGHT IN TULSA, OKLAHOMA

Pages in Study: 251 Candidate for the Degree of Doctor of Philosophy

Major Field: Nutrition

Scope and Method of Study: In view of an increased prevalence of childhood overweight and many interventions that are not effective or not sustainable, our interest was to determine the attitudes and beliefs of parents, teachers and principals of a vulnerable population of elementary school students in Tulsa, Oklahoma who are at increased risk of overweight and related conditions. Data for the quanitative component of the study came from a survey of 36 elementary school principals in Tulsa. Data for the qualitative component of the study came from one hour interviews with each of six parents and six teachers of 4th or 5th grade African American students in Title I schools in Tulsa. We utilized the constant comparison method to triangulate sources and compare and contrast responses from each stakeholder group. SPSS was used to analyze the survey data and NVIVO was used to analyze the interview transcripts.

Findings and Conclusions: This research adds key stakeholder perspectives to the body of knowledge. These data are needed to ensure that implemented programs are supported by the key stakeholders and are sustainable over time. Points where the data converged, diverged, or were simply different perspectives provide insights for program planners and future research studies.

ADVISER'S APPROVAL: Tay S. Kennedy, PhD, RD