2006

Parents' perspectives and barriers regarding childhood overweight

Sharon Trower Vejnar

Follow this and additional works at: https://scholarworks.lib.csusb.edu/etd-project
Part of the Health and Physical Education Commons

Recommended Citation

This Project is brought to you for free and open access by the John M. Pfau Library at CSUSB ScholarWorks. It has been accepted for inclusion in Theses Digitization Project by an authorized administrator of CSUSB ScholarWorks. For more information, please contact scholarworks@csusb.edu.
PARENTS' PERSPECTIVES AND BARRIERS REGARDING

CHILDHOOD OVERWEIGHT

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Health Education

by
Sharon Trower Vejnar

June 2006
PARENTS' PERSPECTIVES AND BARRIERS REGARDING

CHILDHOOD OVERWEIGHT

A Project
Presented to the
Faculty of
California State University,
San Bernardino

by
Sharon Trower Vejnar
June 2006

Approved by:

Dr. Kim Clark, First Reader

Dr. Dorothy Chen-Maynard, Second Reader

Date 6-5-06
Childhood obesity is a widespread epidemic in the United States which threatens the health of children and the future generation. This descriptive study examined the perspectives of parents and sought to identify the barriers that parents face as they work to implement healthful lifestyles with their own children. Parents identified a variety of barriers regarding healthy eating habits, including the excessive availability of junk foods, lack of nutritious school lunches, the perception that their child was a picky eater, and lack of time to prepare healthy meals. They reported barriers to physical activity, which included lack of time, children preferring to play video games or watching TV, lack of convenient places to exercise, and that sports activities were cost prohibitive.

Interventions that parents identified included media, such as radio, TV programs and newsletters, to increase parent understanding. Parents indicated that parent classes or support group and children's classes or support groups may be helpful to parents that are concerned about their children's weight. Information learned from this study supported that most parents are aware that childhood overweight is a serious, widespread problem in our
society. The media has been effective in publicizing the fact, and parents have observed it by observing overweight children.

In summary, childhood overweight is a societal problem requiring interventions at a variety of levels, and parents need school and community support in order to break down barriers that they face in implementing healthful lifestyle practices with their children. Coordinated School Health Programs, which are multidisciplinary efforts that combine school, home, and community resources, are recommended as the most effective means to establishing healthful habits of exercise and good nutrition in children, and to reverse the trend of childhood obesity.
# TABLE OF CONTENTS

ABSTRACT .................................................................................. iii

LIST OF TABLES ................................................................. vii

CHAPTER ONE: INTRODUCTION ........................................... 1
  Significance of Thesis ......................................................... 5
  Research Question .......................................................... 6
  Limitations ......................................................................... 7
  Delimitations ...................................................................... 8
  Assumptions ....................................................................... 9
  Definitions of Terms ........................................................ 10

CHAPTER TWO: REVIEW OF THE LITERATURE .................. 12
  Health Problems Associated with Overweight .............. 14
  Academic Performance .................................................. 16
  Genetics ........................................................................... 17
  Parental Overweight ....................................................... 18
  Physical Activity ............................................................. 18
  The Community Setting .................................................. 20
  Media ................................................................................ 21
  The Phenomenon of Fast Foods ..................................... 25
  Public Perceptions ........................................................... 27
  Perceptions of Health Care Providers ......................... 28
  Parent Perceptions .......................................................... 29

CHAPTER THREE: METHODOLOGY ................................. 38
  Human Subject Protection ............................................... 39
  Convenience Sample ....................................................... 40
LIST OF TABLES

Table 1. What Grade is Your Child in? .................. 45
Table 2. What is the Gender of Your Child? .......... 46
Table 3. What is the Ethnicity of Your Child? ...... 46
Table 4. Body Mass Index by Ethnicity .................. 47
Table 5. Number of Children, by Grade, with Body Mass Index at or Above the 95th Percentile ...................... 48
Table 6. Parental Awareness of Childhood Obesity .......... 49
Table 7. Number of Parents who Agree that Childhood Obesity is a Problem .................. 49
Table 8. How Parents Became Aware of Problem of Childhood Obesity .................. 50
Table 9. How Likely is it that Childhood Obesity is Caused by Genetics/Heredity .................. 51
Table 10. How Likely is it that Childhood Obesity is Caused by Lack of Exercise .................. 52
Table 11. How Likely is it that Childhood Obesity is Caused by Unsafe Streets or Neighborhoods .................. 52
Table 12. How Likely is it that Childhood Obesity is Caused by Time Spent on TV/Video Games .................. 53
Table 13. How Likely is it that Childhood Obesity is Caused by Media/Advertising .................. 54
Table 14. How Likely is it that Childhood Obesity is Caused by Poor Eating Habits .................. 54
Table 15. How Likely is it that Childhood Obesity is Caused by Fast Food Restaurants .................. 55
Table 16. In General, How Effective do you Think Exercise at Home Would be to Help Maintain Proper Weight in Children .................. 56
Table 17. In General, How Effective do you Think Exercise at School would be to Help Maintain Proper Weight in Children ............ 57

Table 18. In General, How Effective do you Think Exercise, Sports and Recreation in the Community would be to Help Maintain Proper Weight in Children ...................... 57

Table 19. In General, How Effective do you Think Healthy Meals at Home would be to Help Maintain Proper Weight in Children .............. 58

Table 20. In General, How Effective do you Think Healthy Meals at School would be to Help Maintain Proper Weight in Children .............. 59

Table 21. In General, How Effective do you Think Healthy Foods/Restaurants in our Community would be to Help Maintain Proper Weight in Children ...................... 59

Table 22. In General, How Effective do you Think Information and Advice from Doctors and Nurses would be to Help Maintain Proper Weight in Children ...................... 60

Table 24. Reasons Parents gave for Child not Exercising More ...................... 61

Table 25. Reasons Parents gave why Child did not Eat More Healthy Foods ...................... 62

Table 26. Helpful Interventions that Parents thought Would be Helpful for Parents Concerned about their Children’s Weight ...... 63
CHAPTER ONE
INTRODUCTION

Surgeon General Richard Carmona (2003), stated that, "We are seeing a generation of kids that are growing up in front of the TV and computer and away from the playground and ball fields. Childhood obesity more than tripled over the past 40 years and this epidemic will lead to an obese, and therefore, unhealthy adult population unless we do something now" (as cited in Get Kids in Action, 2003). Para. 3) In 2004, after further addressing the issue of childhood obesity, Carmona said, "Because of the increasing rates of obesity, unhealthy eating habits and physical activity, we may see the first generation that will be less healthy and have a shorter life expectancy than their parents" (as cited in Cigna Behavioral Health, 2005, para. 1).

When one looks around - on a school campus, at a mall, a park, or any public place, obesity can be seen, for it is prevalent everywhere, in children as well as adults. The news media provides coverage about the extent of the problem, but offers few answers. Much research has been published about the problem, and statisticians have continued to monitor its prevalence, but the rate of
childhood obesity continues to rise (Hedley, Ogden, Johnson, Carroll, Curtin, & Flegal, 2004).

Former President Bill Clinton announced in May of 2005 that he was lending his support to combat the problem of childhood obesity. He attributed his own health problems and need for heart surgery to the fact that, as a youth, he was overweight and consumed a diet of unhealthful and high fat foods. The William J. Clinton Foundation plans to spearhead efforts that aim to, within the next ten years, reverse the current trend of childhood obesity. Co-chairing the Foundation is the Republican governor of Arkansas, Mike Huckabee. Governor Huckabee said he was "frightened to death" when he was diagnosed with type 2 diabetes a few years ago, and resolved to lose his extra weight. He went from 280 pounds to 170 pounds over the next two years. He, too, attributed his overweight and development of type 2 diabetes to growing up on an unhealthful diet. The announcement of the Foundation’s plan to, reverse the trend of increasing rates of childhood obesity within the next ten years, took place, fittingly, at a school (Altman, 2005).

In recent years the incidence of childhood obesity has risen alarmingly. According to the Centers for Disease Control and Prevention, the obesity rate has more than
doubled for preschool children between 2 and 5 years old, and for young people between the ages of 12-19 years and has more than tripled for children between 6-11 years of age. (Centers for Disease Control [CDC], 2005a) Thirty one percent of children between 6-19 years of age are considered to be at risk of overweight, or overweight, which means that they are at or above the 85th percentile on the CDC growth charts for children and adolescents. Sixteen percent are at or over the 95th percentile of their recommended weight. Overall, the national statistics are that 17 percent of children are overweight. In some of the southeastern states, the rate of childhood obesity is at 20 percent, and in Alabama and Mississippi, it is 25 percent.

The United States Department of Health Services reported that between the years 2001 and 2004, there was a 6.1 percent increase in the number of overweight school children (DHS, 2005). More locally, in the 66th Congressional District in southern California, the rate of obesity increased 10 percent during that same time. The report was compiled from fitness testing done with 5th, 7th, and 9th graders. Southern California showed a larger increase in rates of overweight children than did the
northern part of the state (California Department of Education [CDE], 2005).

There have been many changes in the environment in recent years, and changes in lifestyles that have affected children. Most notable are the changes that have taken place in eating habits of Americans. With the proliferation of restaurants there has been a corresponding enormous increase in frequency of fast food restaurants there has been a corresponding increase in fast food and soft drink consumption. The convenience of fast foods and eating out may be partly a result of the fact that more women are working outside the home and there is less time for food preparation. In 1975, 45 percent of married women with husbands and children under 18 years of age were employed in the workplace. By 1998-1999 the percentage of working mothers had increased to 71 percent. In 1999, 27 percent of households with children were single parent homes. (French, Story, Jeffrey, 2001).

A sedentary lifestyle is associated with childhood obesity, and advances in technology and the media, including video games and the internet, have dramatically changed the way children spend their leisure time. Decreasing amounts of time spent in physical education
classes also contributes to inactivity (Grunbaum, Kann, Kinchen, Ross, Hawkins, Lowry, et al, 2002), as schools districts are pressured to raise students’ academic test scores.

Parents are recognized by health care providers and public health leaders a being the primary influence in developing their children’s lifestyle, eating habits, and physical activity levels (Hodges, 2003). Parents are the primary role models for their children. Reports have been published about the impact of mothers’ child-feeding practices on the relationship to childhood obesity (Golan, 2001), and obesity has been directly related to the number of hours children watch TV in the home (Hernández, 1999), which parent may influence. But few studies have investigated how parent feel about childhood obesity, what they believe, what their concerns are, or what limitations or barriers they face that may keep them from focusing on an overweight problem with their own child.

Significance of Thesis

Few studies have been done that have tried to identify particular barriers that parents may face that prevent them from recognizing obesity in their own children, or addressing overweight in their children when
scientific journals, and television programs have disseminated information about the societal problem of childhood obesity, so there is growing public awareness of childhood overweight, but research studies indicated that parents often did not recognize the problem in their own children (Baughcum, 2000, Contento, 2003) They believed that their children were over-weight if their weight reached the point that they were unable to be physically active or if they were taunted by peers (Jain, 2001).

This project sought to identify the barriers that prevent parents from recognizing overweight, and factors that prevent them from implementing weight management practices for their children. By answering the question "What are the parents’ perspectives regarding barriers to supporting, or changing their child’s weight-related behaviors?," information may be obtained that may be beneficial in understanding the needs of families, that, when addressed, may precipitate willingness to change lifestyle habits that contribute to being overweight.

Limitations

Though the school district, where the study took place, has students from different socioeconomic and ethnic backgrounds, the surveys were completed in just one
public elementary school, which is located in an older, more rural neighborhood. The views of those parents in the study may not necessarily reflect the views of parents in other schools so these results may not be the perceptions of all parents, or parents of a particular socioeconomic level or culture. The survey was completed by parents of elementary school children ages 5-12 years; therefore, the results may not reflect the views of parents of children of other ages. Based on the data collected, 92 of the 115 respondents reported height and weight data for their children. It is not known whether parents of overweight children share the same perspectives as those of the children with normal weights.

Delimitations

To keep the survey brief, questions about the socioeconomic status of the families that participated in the survey were not asked. No questions were included about parents’ level of education, or which parent completed the survey, although that information could have been beneficial in understanding parents’ perspectives. Parents were not asked any questions about general health habits of the family or children other than parents’ general perspective on their children’s diet and exercise.
To request more information might have been lengthy and tedious. No questions were asked that included information about parent and child interaction, communication patterns, or parenting style, which could also have been related to perceived barriers.

Assumptions

For this project, it was assumed that parents would answer truthfully, and with accuracy and insight, in issues regarding their children’s weight, dietary habits, and questions about physical activity. It was also assumed that parents care about their children’s well being and desire them to be, generally, in good health. Additional assumptions included:

- Parents did not want to place stress on their children regarding their weight status. Parents were the primary influence in their children’s lives in that they were the initial caregivers and role models.
- Parents determined family eating habits and physical activity patterns.
- Parents had the ability to guide their children to eat healthfully, and to be physically active.
Parents were able to address the issue of overweight in their children by guiding, and serving as role models in making dietary changes, when necessary, reducing sedentary time, and increasing time spent being physically active.

Considering these, another assumption was that interventions by healthcare providers would likely be more successful if the parents were considered to be the catalysts for change, in addressing overweight. The decisional balance lay with the parents as the agents for change. Finally, in order for parents to be effective agents in implementing changes to reverse their children’s overweight, it was assumed that they need to recognize overweight, the causes and effects, and weigh the pros and cons of making changes in habits of eating and physical activity for their children.

Definitions of Terms

**Obesity** - Excess overweight, or excess accumulation of body fat. Though the phenomenon of childhood overweight is known as “childhood obesity,” the CDC does not use the term obesity when referring to overweight children.
Overweight - The Center for Disease Control defines overweight in children as body weight that is above the 95th percentile of Body Mass Index on the CDC growth charts.

At risk of overweight - Children with BMI between the 85th and 95th percentile of Body Mass Index on the growth charts are referred to as "at risk for overweight." It is generally at this point that healthcare providers become concerned because those children are at increased risk for future health problems.

Body Mass Index - BMI, kg/m². After assessment of a person's weight and height, BMI can be calculated using the formula: weight (kilograms)/ height [meters]².

Decisional Balance Theory - Occurs when a person weighed the pros and cons of making a decision. The pros represented the benefits of making a decision, and the cons were the perceived barriers that may have hindered a person from making a decision.

Value Expectancy Theory - When contemplating change, if benefits outweigh the barriers of making a change, change is likely to occur.
CHAPTER TWO

REVIEW OF THE LITERATURE

As described below, much research has been conducted on childhood overweight in an effort to discover effects, causes, and treatments for this growing epidemic in America. The negative effects associated with childhood overweight appeared to be a serious health threat and have motivated researchers to pursue appropriate methods of prevention and treatment.

The National Health and Nutrition Examination Survey (NHANES) is a periodic survey that is done to estimate the health and nutritional status of people in the United States. In data gathered between 1988-1994, the NHANES results showed that an estimated 11% of children between the ages of 6 and 19 years old were overweight (CDC, 2005a). The same survey taken from 1999-2002 indicated that estimated that 16 percent of youth are overweight, reflecting a 45% increase in the number or overweight children just over one decade later. By 2004 it was reported that nearly one-third of children between six and nineteen years are considered to be overweight, or at risk of overweight (Hedley, Ogden, Johnson, Carroll, Curtin, & Flegal, 2004).
What does overweight mean, and what is the difference between overweight and overweight? Definitions may vary according to different sources, but the standard for defining overweight and overweight comes from the Centers for Disease Control. Body mass index (BMI) is a measure which uses height and weight to correlate a person's amount of body fat. An adult with a BMI of 25 or more was considered overweight, and 30 or more is considered to be obese. Children and teen calculations are more complex. Gender needs to be considered, as boys and girls are different in body composition, and mature differently. Also, children tend to have different amounts of adiposity during different periods of their growing years, so growth charts were designed to reflect those differences and stages.

Standard BMI adjusted-for-age charts for boys and girls between the ages of 2-20 years are available on the Centers for Disease Website. These charts give percentiles to identify overweight and underweight for children and teens. A child at the 85th to 94th percentile is "at risk of overweight." In the 95th percentile or above, the child is considered overweight. The term "obese" is not used at all in these widely used charts (CDC, 2005b).
Health Problems Associated with Overweight

Obese children tend to become obese adults. Hodges (2003) in a review of research about early childhood overweight and parental influence, summarized that early feeding practices contributed to overweight infants, and set the stage for overweight in later life. Freedman (2001) had previously reported a longitudinal study in which that 77% of children with a BMI greater than the 95th percentile remained obese as adults.

Overweight children are at a higher risk for an assortment of serious health problems. In the United States, two major causes of death among adults today are cardiovascular disease and type 2 diabetes. Increasingly, overweight children are being identified has having cardiovascular risk factors such as high blood pressure and high cholesterol. Though children do not usually have heart attacks and stroke, cardiovascular disease begins in childhood, and lays the foundation for these illnesses to occur in the future. High adiposity (fatness) is associated with a cluster of risk variables which include hyperinsulinemia and insulin resistance, high blood pressure, and dyslipidemia, all of which influence the beginning of atherosclerosis and heart disease (Berenson & Srnivasan, 2005).
Estrada (2004) reported on the different adverse ways that overweight was found to affect the health of overweight children. Type 2 diabetes, a lifestyle disease that, until a few years ago, was seen only seen in adults, is increasingly being diagnosed by pediatricians. In type 2 diabetes, the body does not produce enough insulin, or it becomes resistant to the insulin that it produces, resulting in high blood glucose levels, and causing health problems. Historically, the typical patient who was diagnosed with type 2 diabetes was an overweight adult, forty years of age or more, with a sedentary lifestyle and a poor diet. But the picture of type 2 diabetes is changing. Now pediatricians are diagnosing this disease, usually in children who are overweight and underactive. Diabetes is becoming so prevalent in children, that Texas mandated that school nurses screen students for acanthosis nigrecans, a condition characterized by a dark discoloration of the skin in creases around the neck, usually in overweight children, that has been associated with detection of diabetes. It is a non-invasive method for diabetes screening (Texas Department of Health, 2002).

Estrada also described other health issues that overweight children may face. Respiratory problems such as obstructive sleep apnea are being seen in increased
frequency in overweight children. Obstructive sleep apnea causes a person to be tired, thus decreasing their likelihood of being physically active, which can create a pervasive and vicious cycle for an overweight child. Asthma may also compound the problems of an overweight child, though the causal association is not known. A child with asthma may not be able to tolerate as much physical activity, thus contributing to further overweight. On the other hand, overweight can make breathing even more difficult during an asthma attack, require more medication use, and require more emergency department visits. Fatty liver disease, gallstones, and kidney problems, as well as many types of cancers of many types are also associated with overweight children.

Academic Performance

The Early Childhood Longitudinal Study of over 11,000 kindergartners was one of the first studies to show a relationship between childhood overweight and lower academic performance (Datar, Sturm, & Magnabosco, 2004). The data, gathered from a nationally representative sample of kindergartners in the fall and spring of the 1998-1999 school year, showed that overweight kindergartners had significantly lower scores in math and reading, compared
to kindergartners who were not overweight. When socioeconomic factors and behavioral factors were taken into consideration, they too influenced test scores, and the gap narrowed. Just the kindergarten boys’ math scores remained significantly lower. That showed that overweight was not the cause of lower scores, but is a marker, or a correlate, of lower achievement. The gap in scores remained the same through the end of first grade. Mothers’ education and ethnicity were more powerful predictors of lower test scores than weight, but the study showed that weight is also a marker in predicting children’s test scores.

Genetics

Genetics has been found to be just one of multiple factors that contribute to the growing trend of childhood overweight (Ebbeling, 2002). There are a few single gene defects that cause serious overweight in children. Syndromes such as Prader-Willi, Cohen, Alstrom, and Bardet-Biedl syndromes are genetic disorders which cause a child to have uncontrollable urges to eat. If uncontrolled, these disorders caused a person to become seriously overweight. Fortunately, such syndromes occur infrequently. Combined, those disorders comprise only a
small portion of the number of children who are overweight. At least 250 genes have been found that may interplay to have roles that may cause a predisposition to overweight, but scientists do not yet understand how that occurs. But genetics are not believed to be the lone cause of such dramatic increase in childhood overweight rates.

Parental Overweight

Whitaker studied medical records of 854 patients in a Washington State health maintenance organization between 1965 and 1971. He found that having an overweight parent increased the likelihood of a child being overweight. Overweight school aged children that had at least one parent who also was overweight, had a seventy percent chance of being overweight as adults. For children under the age of ten years, regardless of their weight status, having an overweight parent more than doubled their risk of being overweight in the future (Whitaker, Wright, Pepe, Seidel, & Dietz 1997).

Physical Activity

Jack O’Connell, California State Superintendent of Public Education, when announcing the results of the annual statewide survey of physical fitness scores of fifth, seventh, and ninth graders, stated that “The 2004
results indicate an unacceptable percentage of California public school students do not achieve the minimum fitness levels for each of the fitness areas tested. We have a long way to go to eradicate the silent epidemic of childhood overweight and poor nutritional health." The test measured aerobic capacity (cardiovascular endurance), body composition (body fat), abdominal strength and endurance, trunk strength and flexibility, upper body strength and endurance, and overall flexibility. Overall, in 2004, only 27 percent of students achieved the performance goals for all six criteria (California Department of Education [CDE], 2005). Low aerobic fitness was directly linked with increased fat (adiposity) in white and black children (Johnson, Figueroa-Colon, & Herd, 2000).

Schools districts are faced with shrinking budgets and constant demands for higher test scores, so less emphasis has been put on physical education. Only 71.4 percent of elementary schools provided regularly scheduled recess for students in kindergarten to 5th grades (CDC, 2005d). The Strategic Alliance to Prevent Childhood Overweight recommended that schools enforce the current physical education requirements at all grade levels, and
improve the overall quality of PE programs (Strategic Alliance, 2005).

Beyond elementary and intermediate school, the 2003 Youth Risk Behavior Surveillance survey (YRBS), a nationwide survey of high school students, reported that only 28.4 percent of students attended a physical education class daily (Grumbaum et al., 2004).

Researchers from the University of New Mexico studied girls from the ages of 9 or 10 to 18 or 19 years of age, in girls from three different cities in the United States. They found a steep decline in the girls' level of physical activity habits during the time of transition from childhood to adulthood, and an increase in their rate of overweight. They did not find a large increase in the amount of energy intake consumed in the girls. They concluded that a decrease in physical activity may have contributed to weight gain in the girls (Newswise, 2005).

The Community Setting

Children require a space in which to be physically active. Timperio (2004) reported that "parental perceptions of heavy traffic on local streets and concern about road safety may be indirect influences on overweight and overweight among 10-12 year old children."
Questionnaires were given to parents to complete at home, and another questionnaire was given to 10-12 year old children to measure their perceptions of their neighborhoods, such as, road safety, proximity to friends' houses, parks, and shops. Then they were asked questions about the neighborhoods regarding stranger danger, traffic, road safety, and sports facilities. Parents generally felt that their children had access to neighborhood destinations, that desired destinations were within walking or cycling distance, but perceptions about road safety and heavy traffic could prohibit them from allowing their children to walk or bike to the nearby destinations. Children whose parents believed that there was heavy traffic in the neighborhood were 40 percent more likely to be overweight, compared to the other children.

Media

As children may have become more limited in their opportunities for outdoors physical activity, media venues such as TV and computers had exploded with the ability to keep children entertained and sedentary.

Television and computers offers a variety of sedentary entertainment to occupy the time of children of all ages, beginning in infancy. The Baby Einstein Video
series targets toddlers, ages 18 months to three years old. Television, cable TV, video movies, electronic games, and computer activities Even many internet Web sites vie for children’s attention. Rideout, Vandewate, and Wartella (2003) conducted a nationally representative random-digit-dial phone survey of 1000 parents of infants and children between 6 months and 6 years of age, to determine the media habits of young children. They discovered that many children spend almost as much time with screen media (1:58) as playing outside (2:01). Forty five percent of parents admitted that they used TV to occupy their children while they finished tasks.

A study of young children in the New York WIC program was done to assess whether having a television in their own bedrooms would be associated with overweight in preschool children (Dennison, Erb, & Jenkins, 2002). Parents of 2761 children were surveyed two years, consecutively, and heights and weights of the children were measured. Results of the study showed that having a TV in their own bedroom was associated with being overweight in the children. Further, young children with a TV in their own room watched an hour more of TV per day than those children who did not have a TV in their room. Having a TV in their room was more strongly associated
with children's overweight than was the actual number of hours spent watching.

In Hernandez' (1999) study of children in Mexico City, children's risk of overweight decreased 10 percent for each hour per day of moderate or vigorous physical activity, and increased by 12 percent for every hour per day of watching television. The children in the study were between the ages of 9 and 16 years of age, and reported watching TV an average of 4.1 hours a day, and being physically active for 1.8 hours a day.

While it is true that children are sedentary while watching TV, what may be even more detrimental to children's health than being sedentary was the fact that children are exposed to thousands of advertisements for food, and they are highly influenced by the ads (Story & French, 2004). That knowledge is not lost on advertisers, who have done research about children as consumers. Though advertisers do not made their findings public, the proof of children's consumer power is evident by the fact that the fast food industry often targets children in advertising and promotion. Schlosser (2001, p. 18), in his popular book, Fast Food Nation, contended that $3 billion, is spent, annually, on TV advertising that targets children. Children are exposed to 40,000 advertisements a
year, or, about one every 5 minutes. Most ads that target children are for sugary breakfast cereals, candy, or fast food. Children, in turn, have strong influence on their parents and other significant people in their lives, thus being powerful consumers. Food companies target children by having cartoon characters as mascots, offering prizes and promotional toys as rewards for food purchases, and even having online games and clubs (Story & French, 2004).

The Henry J. Kaiser Foundation published a report that reviewed research that had been done, thus far, to identify the various ways that the media contributes to childhood overweight. The report concluded that: 1) the time that children spend with media displaces time spent being physically active, 2) that food advertising influences children to make unhealthy food choices, 3) that cross-promotions between food products and popular media or cartoon characters encourage the purchase and consumption of unhealthful foods, 4) snacking on junk foods while watching TV discourages the likelihood of later eating healthy foods at meal time, 5) watching TV lowers the energy expenditure, and 6) depictions of eating and body weights in media encourages poor food choices. That is, movie characters are often unrealistically thin, yet in their role, appear eating unhealthful snacks,
sending a contradictory message to children, that it is okay to consume these products, and remain thin (Henry J. Kaiser Foundation, 2004).

The Phenomenon of Fast Foods

"The typical American now consumes approximately three hamburgers and four orders of French fries every week" wrote Eric Schlosser in his 2001 book, Fast Food Nation (Schlosser, 2001, p. 6.). In his book, he discussed the rise in consumption of food prepared from fast food outlets since the 1950s, paralleling the rise of childhood overweight. He stated that "current methods for preparing fast food are less likely to be found in cookbooks than in trade journals of food technology and engineering. Foods were highly processed and reformulated, to provide uniformity and simplicity of preparation once it reached the different chain stores. Natural flavors were chemically engineered to give food desirable taste. Most fast foods are high in energy, fats and trans fats, and deficient in nutrients, fiber, and antioxidants.

Super sized portions promoted by fast food outlets have distorted what nutritionists call a standard serving size. One research group examined three-day food diaries of a national sampling of 3148 children that took part in
a survey of food intake from the US Department of Agriculture in 1989-1991. Only one in five children consumed the recommended five or more fruit and vegetable servings a day. Of the vegetables consumed, almost one fourth of the servings were French fries (Krebs-Smith, Cook, Subar, Cleveland, Friday, & Khale, 1996).

School districts routinely serve fast food to students on a daily basis. Pateman (1995) reported that almost one fourth of schools expected their nutrition services to not only generate enough revenue to cover their costs and salaries, but to earn money in excess of costs, for the district. Sales reflect that students are satisfied with prepackaged muffins, French toast sticks, sugary cereals, and other high energy density snacks for breakfast. It is less expensive for school districts to contract with local fast food vendors such as Pizza Hut, or Taco Bell, than to prepare healthful foods on site, which would require a full kitchen staff. So food quality has deteriorated to fast food fare for meals served at schools.

The beverage of choice has also changed in the last generation. The consumption of milk declined from 31 gallons in 1970 to 24 gallons in 1997. Consumption of soft
drinks increased from 34 gallons per person in the 1980s to 44 gallons per person in 1997 (French, 2001).

Public Perceptions

Evans (2005) focused on public perceptions concerning specific intervention strategies in combating childhood overweight, and to identify possible barriers to support. Forty percent of the respondents were parents with children in the home. Questions were asked regarding perceptions of health threats and contributors of childhood overweight, and about whose responsibility it is to reverse the trend of overweight. The survey then focused on specific interventions that have been tried or proposed in schools, media, and communities. Responses were ranked by intensity, for example, if a respondent believed that government should provide interventions for children’s overweight problem, would they be willing to pay a higher tax to cover this cost.

The large majority of respondents, 91 percent, believed that parents are responsible for their children’s weight. Only 16 percent thought that children’s weight is the responsibility of the government. Of the respondents with children at home, 12 percent reported having at least one obese child.
Eighteen interventions for reducing childhood overweight were addressed. Among them were interventions that could be used in schools such as weight evaluations, school cafeterias serving more healthful meals, raising prices on less healthful meals, types of foods and drinks that should be sold in school vending machines, and increasing requirements for physical education and health and nutrition education. The study showed that there is public support for most of these types of interventions, but the public opposes most taxed-based programs. Interestingly, parents with children at home indicated lower support for interventions, and were less likely to support children’s weights to be evaluated in schools.

Perceptions of Health Care Providers

Though referred to as “parental perceptions” the Cigna website (Cigna, 2004, para. 3) listed five perceptions that may more aptly be called “caregivers perceptions about parents.” Parents may not recognize that their children are overweight, may not be motivated to change their behaviors or eating habits, may not want nutritional counseling, and that they lack the ability to set limits regarding food issues, and other areas of discipline, for that matter. They use food as a tool to
reward and control behavior, or as a sign of affection. Children, on the other hand, often have too much decision making power about the foods they eat.

Healthcare professionals find that parents are likely to view any discussion about their child's overweight issue as personal criticism of their parenting abilities, and may react with anger. Pediatricians, nurse practitioners, and registered dieticians generally felt that childhood overweight needs to be addressed because it will affect health and quality of life. In a survey of over 900 of these healthcare professionals, lack of parent involvement was cited as the most significant barrier to treatment (Story, 2002).

Parent Perceptions

Parental perceptions about childhood overweight were explored in a questionnaire and distributed to parents of 4-8 year olds at a pediatric faculty clinic (Etelson, 2003). The intent of the questionnaire was purposely masked by adding questions about safety concerns, to allay potential parental anxiety or hesitations about discussing overweight. In this study, parents demonstrated awareness of childhood overweight as a health risk. They also showed at least a basic understanding of proper nutrition, such
as not consuming too much sugar, and avoiding frequent consumption of fast food.

Parents of overweight children had similar responses to parents of children with normal weights regarding overweight as a health risk, and knowledge of healthy eating habits. Parents of overweight children, however, underestimated the weight of their children. Only 10.5 percent of parents with children over the 95th percentile BMI accurately perceived their children's weight compared to 59.4 percent of parents of children with normal weight.

The population of the WIC program in Fairfax, Virginia is largely Hispanic, and efforts to reduce childhood obesity among participants have had little success. A survey given to parents of overweight children showed that 35 percent of parents did not recognize obesity in their children, and forty three percent thought their child's weight was "fine." Though they failed to correctly perceive overweight, 78 percent of parents were aware that overweight in children can cause heart problems later in life. Interestingly, 18 percent of staff (nurses and nutritionists) did not recognize obesity, by appearance, in those same children. The authors of the study concluded that parents and staff may have had the same cultural bias, and that any intervention must first
consider the parents cultural biases and perspectives (Myers & Vargas 2000).

The Cincinnati Pediatrics Research Group (CPRG) conducted an investigation to study to mother’s perceptions of overweight preschool children (Baughcum, Chamberlin, Deeks, Powers, & Whitaker, 2000). Groups of mothers were recruited from two sites. One group was from WIC clinics, Women, Infants and Children Governmental Nutrition Program for mothers and children that fall in the low income bracket. The other group was from three pediatric medical offices that are part of the CPRG, and consisted of mostly middle or upper income families.

The study included 622 mothers with their children, who were between the ages of 23 months and 60 months old. Education level, income, and ethnicity about participants were recorded. The mothers were asked to state their heights and weights, and the toddlers’ heights and weights were measured. Mothers were asked whether they were overweight, and whether or not their children were overweight.

Most mothers, regardless of the education level, correctly perceived whether they were overweight. However, only 21 percent of mothers with overweight children recognized their children as being overweight. Mothers
with low education, (high school or less), tended to be more overweight, themselves, and so did their children. In the study, the mothers’ perceptions were apparently associated with their own level education. Only a few of the mothers who were unable to recognize overweight in their children had concerns about their children’s future weight. That would seem natural, for if a mother could not recognize present overweight, she may feel no cause to worry about a future weight issue.

In another study, the Cincinnati group endeavored to identify the perceptions that low-income mothers have about childhood overweight, and their barriers to overcoming it (Jain, Chamberlin, Carter, Powers, & Whitaker 2001). Three focus groups were conducted, with six mothers in each group, to discuss the overweight problem. All of the mothers had children who were overweight or at risk of becoming overweight, such as having an obese parent. Most children were above the 85th percentile on the CDC chart.

For the most part, the mothers recognized that their children were overweight but did not buy in to the concept that their children were obese. They were not concerned about their children’s weight, and had little interest in the CDC growth chart, or at which percentile their child’s weight placed on the graph. Mother’s felt that healthcare
providers did not understand, or take such things as hereditary factors or a child’s individual makeup into consideration, but instead, graphed the child’s height and weight onto a chart that had little meaning. To their understanding, their children’s weight was the result of hereditary factors, frame size, and bone structure, such as being “big boned.” Mothers’ comments appeared to indicate some pride in having an over-sized child. A child was determined to be overweight if he was taunted by peers, or was lazy and physically inactive. Overweight is when a person “can hardly walk” or “couldn’t get out of bed because they are so big.” If a child was happy, active, and had a good appetite, weight was not a concern to mothers in the focus groups.

Researchers concluded that using the CDC growth charts as a tool for teaching mothers about overweight may not be the most effective way in teaching about prevention of overweight issue. Comments made by the mothers alluded to some mistrust of the healthcare providers’ advice about overweight.

The focus groups also revealed that mothers often may not be the strongest influence in what their children eat. Grandmothers or fathers, also, can be strong influences in some homes. Mothers often did not have control over what
their children ate at home, as homes were multigenerational, with a number of extended family members present who provided childcare when a parent was not present.

A study conducted in Australia may be pertinent to Americans as well (Hesketh, Waters, Green, Salmon, & Williams, 2005). The purpose of the study was to identify parents and children’s views about barriers to eating a healthful diet, being physically active, and taking part in childhood overweight prevention programs to learn acceptable ways to address the problem. One hundred and nineteen children and 17 parents participated in the study. Children reported receiving conflicting messages about which foods are healthy, for example, vegetables are considered healthy, yet potatoes, served as French fries, are not healthy. The same contradictory messages were reported regarding physical activity, such as, reading is a good activity, yet it is sedentary. Conflicting messages were apparent barriers to children making healthy choices in food and physical activity selections. Parents in the study expressed the need for strategies to encourage their children to eat healthier foods and to be active. They recognized that advertisers influenced their children’s food choices. They also indicated that a busy lifestyle
was a barrier to planning good nutritional meals in the home, and providing sufficient amounts of physical activity for their children. Hasketh concluded that the promotion of healthy food choices and physical activity choices need to be consistent in the home, school, community, and in the media, and parents need school and community support to prevent childhood overweight.

Golan, (2001) reported on a review of studies about the impact of the home environment on etiology and treatment of childhood overweight. It is known that factors such as parent’s weight, eating habits, and patterns of physical activity influence children, but other characteristics of the home may also have an impact. Factors such as family disorganization, marital discord, mother and child separation, displacement of child care to others, maternal depression, denial of the growth abnormality, hostility towards health care providers, and inconsistent medical follow-up. In all cases, parents’ abilities at setting limits with their children were impaired.

The manner in which parents eat appeared to set an example to their children. Overeating, eating voraciously or excessively fast, model these behaviors to their children. Overweight children eat faster than children of
normal weight, and do not chew their food as well. Even the number of areas where there is food in the home appeared to influence overweight in children.

Golan concluded that efforts to control childhood overweight should target parents as the agents of change. Direct interventions need to be directed toward the parents, not toward the overweight child, and should focus on healthy lifestyle, and not on weight loss. Parents should be taught the components of a healthy lifestyle, such as regular physical activity, and proper nutrition, and be role models to their children. Parenting skills need to be taught so that they will assume responsibility and leadership in properly training their children according to recommended healthy patterns, and they need to be taught to maintain an environment which is conducive to healthy body weight. Teaching and demonstrating wise food choices, limiting high energy snacks that are available, open communication and helping their children to self-regulate in making healthy decisions, empowering children to make wise choices and take responsibility for their health, these are the things that will empower children to reach optimal health, and reverse their overweight trend.
It appears that parents are the persons of primary influences in children’s lives. They have control over a child’s environment and are a primary model of physical activity. It is imperative that they be able to not only understand the health risks of childhood overweight, but to be able to recognize it in their own children so that they may be able to take steps towards positively influencing lifestyle choices that enhance health. The purpose of this study was to identify parents’ perspectives about childhood overweight and identify barriers that prevent them from addressing weight management strategies with their own children.
CHAPTER THREE

METHODOLOGY

The purpose of this project was to explore and understand parents’ perspectives about children’s weight based on the parents’ responses on a survey that was administered at Norco Elementary School. The information that was addressed in this study helped expand or supplement the study of childhood obesity by investigating parental perceptions about their children’s weight, and helped to identify barriers to implementing healthy weight management practices with their own children. This research investigated the barriers to parent participation in interventions to reduce the growing epidemic of childhood obesity, in the hopes of contributing to a greater understanding by health professionals about the barriers parents face in participating in those activities.

The methodology that was used was the administration of a nine-item survey conducted in the Norco Elementary School, located within the Corona-Norco Unified School District. The survey was distributed to teachers in seven classrooms, representing the seven grade levels, kindergarten through the sixth grade. The students were
asked to take the surveys home for their parents to complete, and then return them to school. The survey was printed in English and in Spanish to accommodate the Spanish speaking participants. Returned responses that were written in Spanish were translated to English by a professional translator.

Human Subject Protection

Permission to administer the survey was requested and granted by the Institutional Review Board of California State University San Bernardino and the Graduate Coordinator Advisor, Dr. Kim Clark. Permission to administer the survey was also obtained from the Superintendent's Office of the Corona-Norco Unified School District, and from the school principal, to conduct the survey in classrooms at Norco Elementary School. All responses on the surveys were completely anonymous. Parents were asked not to list any names in their responses. Upon completion of the survey, parents were directed to place their completed questionnaires in the envelop that was provided, to assure privacy. Teachers were instructed to reseal any unsealed envelopes that were returned. Should a student have opened an envelope, it was
believed that there would be no harmful effects from any information that the student might view.

Convenience Sample

All of the children in one regular education classroom at each grade level, kindergarten through sixth grade, at Norco Elementary School were given the survey to take home for their parents to complete. Some parents chose not to participate, which could have introduced some self-selection bias. Measures to guard against self-selection bias were taken by assuring that responses were anonymous, and by administering the survey in both English and Spanish. When analyzing the results, the demographics of the parents were compared to the overall demographics of the school. Parents who were concerned about their children’s weight may not have been comfortable filling out the survey, but the assurance of anonymity may have provided a safeguard against that.

Instrumentation and Data Collection

A survey was developed to solicit responses about parental awareness about childhood obesity, and about their own child’s weight status. Instructions at the beginning of the survey informed parents that participation in the survey was entirely voluntary.
Parents were asked to list their child's height, weight, and ethnicity, and to circle their child's gender and grade. Two Likert scale questions were included to identify and rate barriers that parents may face when implementing healthy nutrition and exercise practices with their children. Parent attitudes were further explored by having them circle choices about possible barriers to healthy lifestyles, and to obtain their opinions about effective ways for public health leaders to address childhood obesity. At the end of the survey were two blank lines for additional comments should parents wish to make them.

A school psychologist and the school principal were asked to review the instrument for content validity, as well as the nutritionist who headed the local coalition that addressed childhood obesity in Corona and Norco. Content validity was further established by pilot pre-testing the survey with five parents, twice, two days apart. Minor changes were then made to clarify wording, so the questions reflected the intent of the research project. It was estimated that the survey took approximately 15 minutes to complete.
Procedure

Surveys were given to teachers in seven classrooms, kindergarten through sixth grade. Every teacher was visited prior to the initiation of survey distribution by the researcher, to insure willing compliance, to brief them, and to answer their questions and concerns about the study. They were given verbal instructions about how to conduct the survey. Each teacher specified how many English, and how many Spanish surveys they needed for their classroom. The teachers then distributed them to all the children in their rooms. Included in the survey was an introductory note to explain the purpose of the study, instructions to complete it, and to return it to school the following day, sealed in the envelope that was provided. One hundred ninety two surveys were distributed. An estimated response rate of approximately 70 percent was expected to be returned. Each child was given a survey, unfolded, with an envelope attached to it to take home for their parent or parent figure to complete. The participant was requested to place the completed questionnaire in the envelope that was provided, and return it to school the following day. The teachers were requested to seal any envelopes that were not sealed, to keep all responses
anonymous. All of the surveys were to be returned to the researcher, unopened.

Data Analysis

Responses were entered into a data base to be analyzed, using the Statistical Package of the Social Sciences (SPSS). Descriptive statistics were used to determine frequencies and percentages of responses in the categories of ethnicity, grade level, gender, awareness, perceived barriers, and opinions about ways addressing childhood obesity with other parents.

Statistical correlations were calculated to determine positive or negative relationships, if there were any, among selected variables such as children's ages, gender, grade, or ethnicity and parent perceptions regarding weight and perceived barriers. Written comments by parents were also summarized to detect patterns of responses that emerged. Of special interest were recommendations for services that parents suggested may be helpful to other parents who are concerned about children's overweight. That information may provide direction to public health leaders about in planning future interventions in childhood obesity.
Summary

A descriptive design was used to explore parent perceptions about their children's weight and their perceived barriers to implementing healthy eating habit and patterns of physical activity for their children. One hundred ninety two parents of elementary school children were invited to complete surveys, at home, and return them to school sealed, in an envelope that was provided. Parents in one classroom at each grade level, kindergarten through sixth grade, participated in the anonymous surveys. The data was then analyzed to identify patterns that emerged from the information that parents provided.
CHAPTER FOUR

RESULTS AND DISCUSSION

One hundred ninety two surveys were distributed and 115 were completed by parents and returned to school, a response rate of 59.8 percent. The data from the 115 completed surveys that were returned to school were analyzed using SPSS, Statistical Package for the Social Sciences.

Demographics

As seen in Table 1 below, a higher percentage of parents of children in grades 3 through 6 responded and participated in the survey than parents of children in the lower elementary grades.

Table 1. What Grade is Your Child in?

<table>
<thead>
<tr>
<th>Grade</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>15</td>
<td>13.0</td>
</tr>
<tr>
<td>1st grade</td>
<td>8</td>
<td>7.0</td>
</tr>
<tr>
<td>2nd grade</td>
<td>7</td>
<td>6.1</td>
</tr>
<tr>
<td>3rd grade</td>
<td>20</td>
<td>17.4</td>
</tr>
<tr>
<td>4th grade</td>
<td>19</td>
<td>16.5</td>
</tr>
<tr>
<td>5th grade</td>
<td>26</td>
<td>22.6</td>
</tr>
<tr>
<td>6th grade</td>
<td>20</td>
<td>17.4</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2 indicates that slightly more than half 61 percent, of the respondents were parents of boys.

45
Table 2. What is the Gender of Your Child?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>54</td>
<td>47.0</td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>53.0</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Though ethnicity is a question that is often listed in a format with 4-5 choices, as an item of interest, parents were requested to write in the ethnicity of their child. Thirty-seven parents declined answering the question. More than half, 51.3 percent of the total number of respondents who answered the question were parents of Caucasian, as shown in Table 3.

Table 3. What is the Ethnicity of Your Child?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>40</td>
<td>51.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>22</td>
<td>28.2</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4</td>
<td>5.1</td>
</tr>
<tr>
<td>Mixed/Other</td>
<td>12</td>
<td>15.4</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Hispanic was the second most frequent response, at 28.2 percent. Percent of respondents were similar to the ethnic makeup of the school in that Caucasian enrollment was listed as 48.6 percent, Hispanics was 41.8 percent, Asian/Pacific Islander was 5.5 percent, mixed or other was
4.1 percent, and African-American was 2.3 percent of the student population.

Respondents were requested to write in the height and weight of their child. Fourteen parents, 16.1 percent, did not list heights or weights, and nine others, 10.3 percent, listed weight but not height; therefore, it was not possible to calculate the BMI for 23 of the children, or 26.4 percent of the total number. Hispanic children, overall, had the highest BMI, as evidenced in Table 4.

Table 4. Body Mass Index by Ethnicity

<table>
<thead>
<tr>
<th>What is the ethnicity of your child?</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>18.0403</td>
<td>36</td>
<td>4.58636</td>
</tr>
<tr>
<td>Hispanic</td>
<td>20.7948</td>
<td>17</td>
<td>4.72313</td>
</tr>
<tr>
<td>Asian/ Pacific Islander</td>
<td>17.9384</td>
<td>4</td>
<td>5.37543</td>
</tr>
<tr>
<td>Mixed/Other</td>
<td>18.5532</td>
<td>12</td>
<td>4.73269</td>
</tr>
<tr>
<td>Total</td>
<td>18.8022</td>
<td>69</td>
<td>4.72530</td>
</tr>
</tbody>
</table>

When the mean BMI of the different grade levels was plotted on the CDC growth charts, the mean BMI of children in grades 3 and 5 fall in the "At risk for overweight" area. That means that the mean weight of the third and fifth graders was at or over the 85th percentile of recommended weight. The other grade level mean BMIs were within the normal weight range.
Individually, however, 23.3% of the children whose parents reported height and weight were overweight. See Table 5. A higher percentage of students in the study were overweight than the national average. An average of 23.3% of the children with heights and weights listed were at or above the 95th percentile, compared to the national average of 16 percent.

Table 5. Number of Children, by Grade, with Body Mass Index at or Above the 95th Percentile

<table>
<thead>
<tr>
<th>Grade</th>
<th>Listed Heights and Weights</th>
<th>Weight At or Above the 95th Percentile</th>
<th>Percentage of Overweight Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>10</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>1st grade</td>
<td>5</td>
<td>2</td>
<td>33%</td>
</tr>
<tr>
<td>2nd grade</td>
<td>5</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>3rd grade</td>
<td>16</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>4th grade</td>
<td>15</td>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>5th grade</td>
<td>23</td>
<td>8</td>
<td>35%</td>
</tr>
<tr>
<td>6th grade</td>
<td>18</td>
<td>3</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>22</td>
<td>23.3%</td>
</tr>
</tbody>
</table>

Parental Perceptions of Causality

Almost all of the parents were aware that childhood obesity is now recognized as a serious nationwide health problem (98.3 Percent) and reported becoming aware of the issue in a variety of ways (Table 6).
Table 6. Parental Awareness of Childhood Obesity

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Yes</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>115</td>
</tr>
</tbody>
</table>

Most, but not all, parents (91.7 percent of the parents who responded) agreed that childhood obesity is a serious problem, but several disagreed or were undecided.

Table 7. Number of Parents who Agree that Childhood Obesity is a Problem

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Yes</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>undecided</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>108</td>
</tr>
</tbody>
</table>

Table 8 shows that parents became aware of the problem of childhood obesity in a variety of ways. TV appears to be the primary source of information.
Table 8. How Parents Became Aware of Problem of Childhood Obesity

<table>
<thead>
<tr>
<th>Media Source</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>89</td>
<td>77.4</td>
</tr>
<tr>
<td>Newspaper</td>
<td>36</td>
<td>31.1</td>
</tr>
<tr>
<td>Radio</td>
<td>29</td>
<td>25.2</td>
</tr>
<tr>
<td>Magazines</td>
<td>32</td>
<td>27.8</td>
</tr>
<tr>
<td>Doctors or nurses</td>
<td>23</td>
<td>20.0</td>
</tr>
<tr>
<td>Seeing obese children</td>
<td>58</td>
<td>50.4</td>
</tr>
</tbody>
</table>

Parents were asked to express their opinions about the cause(s) of obesity in children by rating seven items on a Likert scale as being likely causes. The majority of respondents (76.4 percent) believed that childhood obesity is somewhat likely or very likely to be caused by genetics/heredity. Only a few parents (11.3 percent) believe that genetics/heredity is a highly unlikely cause. This finding was similar to the results obtained by the WIC studies in that they often felt that their child's overweight was due to genetics. In fact, as noted in the literature review (chapter 2), genetics alone accounts for only a small percentage of childhood obesity. Lifestyle is a major contributor. Genetics along with lifestyle and diet trigger the expression of genes. Most parents,
however, held the view that there are multiple contributors to the childhood overweight issue.

Table 9. How Likely is it that Childhood Obesity is Caused by Genetics/Heredity

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>highly unlikely</td>
<td>12</td>
<td>11.3</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>7</td>
<td>6.6</td>
</tr>
<tr>
<td>no effect</td>
<td>6</td>
<td>5.7</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>50</td>
<td>47.2</td>
</tr>
<tr>
<td>very likely</td>
<td>31</td>
<td>29.2</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As seen in Table 10 below, almost 92 percent of parents cited lack of exercise as being likely or very likely causes of overweight in children but they did not feel that unsafe streets or neighborhoods were a contributing factor (see Table 11).
Table 10. How Likely is it that Childhood Obesity is Caused by Lack of Exercise

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>highly unlikely</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>no effect</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>10</td>
<td>8.9</td>
</tr>
<tr>
<td>very likely</td>
<td>93</td>
<td>83.0</td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 11. How Likely is it that Childhood Obesity is Caused by Unsafe Streets or Neighborhoods

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>highly unlikely</td>
<td>14</td>
<td>13.9</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>13</td>
<td>12.9</td>
</tr>
<tr>
<td>no effect</td>
<td>36</td>
<td>35.6</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>28</td>
<td>27.7</td>
</tr>
<tr>
<td>very likely</td>
<td>10</td>
<td>9.9</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The majority (62.4 percent) of parents rated unsafe streets or neighborhoods an unlikely cause, or having no effect, on overweight, though one parent wrote an
additional comment about not feeling safe, for "fear of kidnapping," to let her child "run around outside without supervision," and that she had too many chores to go outside with him.

Table 12 indicated that the majority of parents, 88.2 percent, recognized that the time children spent watching TV and playing video games contributed to childhood overweight.

Table 12. How Likely is it that Childhood Obesity is Caused by Time Spent on TV/Video Games

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>highly unlikely</td>
<td>7</td>
<td>6.4</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>no effect</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>30</td>
<td>27.3</td>
</tr>
<tr>
<td>very likely</td>
<td>67</td>
<td>60.9</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most parents indicated awareness that their children were influenced by the media and advertising in ways that contribute to overweight, but Table 13 shows that more than a third of the parents thought that media and advertising was unlikely to contribute to children's weight problems, or had no affect on children.
Table 13. How Likely is it that Childhood Obesity is Caused by Media/Advertising

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>highly unlikely</td>
<td>6</td>
<td>5.9</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>9</td>
<td>8.8</td>
</tr>
<tr>
<td>no effect</td>
<td>20</td>
<td>19.6</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>46</td>
<td>45.1</td>
</tr>
<tr>
<td>very likely</td>
<td>21</td>
<td>20.6</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A great majority of parents demonstrated an awareness that poor nutrition contributed to overweight in children (see Table 14).

Table 14. How Likely is it that Childhood Obesity is Caused by Poor Eating Habits

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>highly unlikely</td>
<td>7</td>
<td>6.4</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>no effect</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>11</td>
<td>10.0</td>
</tr>
<tr>
<td>very likely</td>
<td>90</td>
<td>81.8</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100.0</td>
</tr>
</tbody>
</table>

They also realize that consuming fast food was likely or very likely a cause of overweight (see Table 15).
Almost 92 percent of parents recognized fast food as a contributor to children’s overweight.

Table 15. How Likely is it that Childhood Obesity is Caused by Fast Food Restaurants

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>highly unlikely</td>
<td>4</td>
<td>3.7</td>
</tr>
<tr>
<td>somewhat unlikely</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>no effect</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>somewhat likely</td>
<td>24</td>
<td>22.2</td>
</tr>
<tr>
<td>very likely</td>
<td>75</td>
<td>69.4</td>
</tr>
<tr>
<td>Total</td>
<td>108</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Nine parents wrote in additional comments about attributing overweight in children to lack of parental guidance, not being good role models, being too busy to take time for their children, or lacking knowledge about how to feed their children properly.

Parental Perceptions of Intervention Effectiveness

Respondents were also asked to rate the effectiveness of interventions at home, school, or in the community that they perceived to be helpful in maintaining proper weight in children. It was evident that they were aware of the value of exercise in that a large percentage of them, 87.5 percent, thought that exercise at home would be moderately or very effective, and 91 percent felt that exercise at
school would be moderately or very effective. Parents also felt that having community activities available to provide physical activities for children would be helpful in addressing children's weight.

Table 16. In General, How Effective do you Think Exercise at Home Would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>very ineffective</td>
<td>10</td>
<td>9.1</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>4</td>
<td>3.6</td>
</tr>
<tr>
<td>moderately effective</td>
<td>15</td>
<td>13.6</td>
</tr>
<tr>
<td>very effective</td>
<td>81</td>
<td>73.6</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 17. In General, How Effective do you Think Exercise at School would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>very ineffective</td>
<td>5</td>
<td>4.8</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>moderately effective</td>
<td>22</td>
<td>21.0</td>
</tr>
<tr>
<td>very effective</td>
<td>74</td>
<td>70.5</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 18. In General, How Effective do you Think Exercise, Sports and Recreation in the Community would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>very ineffective</td>
<td>5</td>
<td>4.7</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>5</td>
<td>4.7</td>
</tr>
<tr>
<td>moderately effective</td>
<td>24</td>
<td>22.4</td>
</tr>
<tr>
<td>very effective</td>
<td>73</td>
<td>68.2</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The majority of respondents, around 90 percent, believed that healthy meals, both at school and home would
be helpful for children to maintain healthy weights. Ten respondents added comments about the poor quality of meals at school, and wished that healthy meal options were available to their children. Parents also believed that healthy foods or restaurants in the community would be moderately or very effective in helping children maintain healthy weight, but less emphasis was put on the availability of these programs in the community, than at school and home.

Table 19. In General, How Effective do you Think Healthy Meals at Home would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>very ineffective</td>
<td>8</td>
<td>7.1</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>2</td>
<td>1.8</td>
</tr>
<tr>
<td>moderately effective</td>
<td>8</td>
<td>7.1</td>
</tr>
<tr>
<td>very effective</td>
<td>94</td>
<td>83.9</td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 20. In General, How Effective do you Think Healthy Meals at School would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>very ineffective</td>
<td>6</td>
<td>5.7</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>5</td>
<td>4.8</td>
</tr>
<tr>
<td>moderately effective</td>
<td>15</td>
<td>14.3</td>
</tr>
<tr>
<td>very effective</td>
<td>79</td>
<td>75.2</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 21. In General, How Effective do you Think Healthy Foods/Restaurants in our Community would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>very ineffective</td>
<td>6</td>
<td>5.7</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>18</td>
<td>17.1</td>
</tr>
<tr>
<td>moderately effective</td>
<td>33</td>
<td>31.4</td>
</tr>
<tr>
<td>very effective</td>
<td>48</td>
<td>45.7</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>100.0</td>
</tr>
</tbody>
</table>

When asked about the role of health care providers in helping maintain proper weight in children, almost 80
percent of parents thought that information and advice from doctors and nurses were moderately or very effective.

Table 22. In General, How Effective do you Think Information and Advice from Doctors and Nurses would be to Help Maintain Proper Weight in Children

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>very ineffective</td>
<td>6</td>
<td>5.6</td>
</tr>
<tr>
<td>somewhat ineffective</td>
<td>16</td>
<td>15.0</td>
</tr>
<tr>
<td>moderately effective</td>
<td>29</td>
<td>27.1</td>
</tr>
<tr>
<td>very effective</td>
<td>56</td>
<td>52.3</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Parents were then asked about lifestyle of their children, and most parents wished that their child was more physically active and ate healthier foods (56.9 percent and 73.9 percent, respectively). Multiple reasons for not getting enough exercise were listed and parents were asked to circle all that applied to their children. When identifying reasons why children didn’t exercise more, “Not enough time” was the single greatest response.
Table 24. Reasons Parents gave for Child not Exercising

More

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time</td>
<td>24</td>
<td>20.9</td>
</tr>
<tr>
<td>Boring</td>
<td>11</td>
<td>9.6</td>
</tr>
<tr>
<td>Transportation</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>No convenient place</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Prefers TV/video games</td>
<td>19</td>
<td>16.5</td>
</tr>
<tr>
<td>Parent has not encouraged</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Parent has not exercised with child</td>
<td>10</td>
<td>8.7</td>
</tr>
</tbody>
</table>

The most frequently cited reason for why a child did not get enough exercise was "not enough time" (12.7 percent). It was interesting to note that some parents (40.4 percent) did not wish for their child to be more physically active. Three parents that answered, 2.6 percent, were undecided whether their child was adequately physically active.

Similarly, parents were asked to circle multiple reasons for their children not eating enough healthy foods. The reason most often listed by parents regarding why their child did not eat enough healthy food was "My child is a picky eater." Only 3.5 percent indicated that healthy meals are not served at school, and only 1.2 percent indicated that their child doesn't know about good
nutrition. Surprisingly, 22.5 percent of parents did not wish that their child would eat healthier food, and another 3.6 percent of parents were undecided whether their child ate enough healthy food, already.

Table 25. Reasons Parents gave why Child did not Eat More Healthy Foods

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child is picky eater</td>
<td>39</td>
<td>33.9</td>
</tr>
<tr>
<td>No healthy meals at school</td>
<td>27</td>
<td>23.5</td>
</tr>
<tr>
<td>Child doesn’t know good nutrition</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>Junk food available</td>
<td>47</td>
<td>40.9</td>
</tr>
<tr>
<td>Not hungry at mealtime</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>Parent has no time to prepare healthy meals</td>
<td>8</td>
<td>15.7</td>
</tr>
<tr>
<td>Lack of money to purchase healthy food</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>Parent lacks knowledge about nutrition</td>
<td>4</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Parents were asked what, in their opinion, would be helpful for parents who are concerned about their children’s weight (Table 6). A list was provided for them to circle all applicable choices. The list included multimedia, support groups, classes, and advice from healthcare providers. There was no correlation between what parents indicated as their children’s body weight and
what they said would be helpful in maintaining healthy weights for their children.

Table 26. Helpful Interventions that Parents thought Would be Helpful for Parents Concerned about their Children's Weight

<table>
<thead>
<tr>
<th>Intervention</th>
<th>White non-Hispanic</th>
<th>Hispanic</th>
<th>Asian/Pacific Islander</th>
<th>Mixed/Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Programs</td>
<td>3 (7%)</td>
<td>1 (4%)</td>
<td>2 (50%)</td>
<td>1 (8.25%)</td>
</tr>
<tr>
<td>Community Activities</td>
<td>21 (52%)</td>
<td>13 (59%)</td>
<td>2 (50%)</td>
<td>1 (8.25%)</td>
</tr>
<tr>
<td>Children's Classes or Support Groups</td>
<td>20 (50%)</td>
<td>15 (68.1%)</td>
<td>3 (75%)</td>
<td>5 (41.6%)</td>
</tr>
<tr>
<td>Advice from Doctor or Nurse</td>
<td>17 (42%)</td>
<td>6 (27%)</td>
<td>3 (75%)</td>
<td>2 (16.6%)</td>
</tr>
<tr>
<td>Magazines or newspaper articles</td>
<td>5 (16%)</td>
<td>3 (13.6%)</td>
<td>2 (50%)</td>
<td>1 (8.25%)</td>
</tr>
<tr>
<td>Parent meetings/support groups</td>
<td>14 (35%)</td>
<td>8 (36.3%)</td>
<td>2 (50%)</td>
<td>3 (25%)</td>
</tr>
<tr>
<td>Newsletters</td>
<td>9 (22.5%)</td>
<td>9 (40%)</td>
<td>1 (8.25%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>TV Programs</td>
<td>8 (20%)</td>
<td>5 (22.7%)</td>
<td>2 (50%)</td>
<td>2 (16.6%)</td>
</tr>
</tbody>
</table>

There were some differences in findings regarding ethnicity in parents opinions about what interventions would be helpful to parents who are concerned about their children’s weight. Fifty percent, or more, of respondents
that answered, in the Caucasian, Hispanic, and Asian or Pacific Islander groups indicated that community activities would be helpful. Fifty percent of Asian/Pacific Islanders indicated that radio programs which address childhood overweight would be helpful; whereas, among the other ethnic groups, less than 9 percent thought radio programs would be helpful to disseminate health information. The majority of Caucasian, Hispanic, and Asian/Pacific Islander groups indicated that children’s classes or support groups might be effective. Among mixed/other ethnicities, 41.6 percent agreed. Asian/Pacific Islanders felt, strongly (75 percent) that healthcare provider advice would be helpful, as well as magazine or newspaper articles, but a minority of the other groups agreed. Half of the Asian/Pacific Islander parents indicated that parent support groups or classes might be helpful, and there was a request for more support for that among the other groups, as well, though less than 50%. Hispanic respondents, 40.9 percent, were more positive about newsletters being of value, than the other groups. Twelve respondents, 10.4 percent of the total surveys, did not answer the question.
CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

When publicizing the epidemic of childhood obesity, it appears that multimedia sources have been effective in educating parents that the childhood overweight problem exists in the United States. Data from the parental survey conducted by this research project illustrated that television was the most listed media source of learning about childhood overweight the issue. Therefore, it may be an equally appropriate and useful media source for educating parents and teaching them the importance of recognizing overweight in their own children and adapting healthful practices with them in the areas of healthful nutrition and increasing physical activity and prevention of overweight in children.

Implementing Preferred Interventions

As indicated in Chapter 4, parents identified several barriers they faced when attempting to provide healthful foods for their children, including the readily available low nutrient density foods in their children's lives, lack of nutritious school lunches, the perception that their child is a picky eater, and lack of time to prepare healthy meals. They also reported barriers to physical
activity, which included lack of time, their child’s preference to playing video games or watching TV, lack of convenient places to exercise, group sports activities were cost prohibitive, or that physical activity was boring to their child.

Respondents indicated that several interventions may be helpful to support parents who face these barriers. Many parents expressed interest in community activities. But recall that they also indicated that they face the barriers such as the lack of convenient places for their children to participate in physical activities, and the cost prohibitive factors associated with organized sports and clubs. Communities need to work with families to make parks or school grounds and gyms available for supervised, after school and weekend use, with contracts and guidelines that are mutually acceptable to the partnering agencies. If more community activities were readily available to children, they would likely participate. Since some children prefer watching and playing video games rather than to participating in sports, video games that require whole body movement are now available and might be worthy investments for communities and families as a resource to encourage physical activity in sedentary children.
Schools also need to provide daily physical education for all students, throughout the elementary and secondary school years. Increasing the amount of time dedicated to physical fitness will contribute to maintaining healthy body weight for children, and to the health of the future generation.

More than one third of parents reported that their children were picky eaters. Studies have shown that children need to be exposed to a variety of foods with different tastes and textures if they are to learn to eat a variety of foods. In recent years, California public health programs promoted a program called "5 a Day," encouraging people to eat five or more 1/2 cup servings of fruits and vegetables per day. That idea has been expanding, recently, and people are now being encouraged to eat fruits and vegetables with a variety of colors. It would be helpful for school districts to consider that concept, too, when planning school breakfasts and lunch menus. Typical fruits that are currently served in schools are apples, oranges or grapes, and typical vegetables are carrot slices or salads made with colorless iceberg lettuce salad with slivers of carrot and/or red cabbage. In southern California, where there is an abundance of fresh produce, communities could sponsor farmer's markets,
and use market nights for sampling fruits and vegetables. This would provide families with access to a great variety of fresh fruits and vegetables. In addition, these markets, which are popular with young families, can serve as teaching tools and provide nutrition education for families—parents and children. School districts could negotiate and partner with local growers for a wide variety of fresh produce. Though this is not a new idea, it is a bountiful resource, at least in California, that has not yet been widely implemented.

Nearly a fourth of parents surveyed indicated that healthy meals were not available at school, but over 40 percent of them listed the availability of nutrient density food and snacks as the biggest barrier to their child not making healthy food choices. Recent changes in legislation have helped children in this area. The sale of low nutrient density food and beverages is now banned at elementary and middle schools in California. At the high school level, though soft drink manufacturers continue to reward school district with lucrative contracts for the right to have soda vending machines on campus, and both soda and low nutrient snack foods are sold in fund raising events to support various sports and programs and activities. For educational institutions to sell those
products, in the face of the obesity epidemic, defies common sense. School districts have an obligation to the children and families that they serve, to be responsible partners in educating children to eat healthfully, and to serve healthy meals and snacks.

Schools and communities face barriers in providing health and nutrition education, physical education and activities, and healthy food to children, and these barriers may prevent grandiose changes. However, many school districts are embracing a coordinated approach to address children's health needs. That approach is certain to address the weight related behaviors of children, as well. A Coordinated School Health Program offers an eight faceted approach to children's health: Family and Community Involvement in School Health, Comprehensive School Health Education, Physical Education, School Health Services, School Nutrition Services, School Counseling, Psychological, and Social Services, Healthy School Environment, and School-site Health Promotion for Staff. It is essential for schools, communities, and families to work together to maximize our limited resources to teach, model, and support healthy lifestyles to our children.

Health care providers need to be aware of parents' perceptions of overweightness in children and realize that
their advice is needed and valued. Doctors and nurses should address BMI, nutrition and physical activity at every office visit, and provide appropriate information and referrals to other health professionals when appropriate.

It is important to remember the diversity of respondents (and parents) when selecting interventions for different ethnic groups. For example, the small group of Asian/Pacific Islanders that responded to the survey requested multiple interventions such as radio programs, children’s classes, advice from health care providers, magazines, and TV programs. Caucasian respondents believed that community activities would be the most effective intervention for children of parents that are concerned about their child’s weight. They also valued children’s classes or support groups, and advice from doctors or nurses. Hispanics were strongly interested in community activities and children’s support classes. The Mixed/Other group expressed only moderate interest in children’s classes, and showed little interest in any of the other interventions. The Mixed/Other group was small, but suggested need for more research regarding interventions that the group might perceive to be of value in addressing overweight in children. In summary, it is evident that
most parents in the study believed that children's classes or support groups, and the availability of more communities would be helpful to families with children where there are weight concerns.

Not only do these findings imply the involvement of both schools and community agencies; but there is a need to remember and address issues that children who do not yet have weight concerns also need to learn healthy lifestyles. All children should have the opportunity to learn principles of good nutrition and physical activity, both in the school and community setting. It is only through a coordinated effort which recognizes the parents' role, interests, and barriers to participation in their children's weight, but also incorporates systematic changes at the school and community levels, that progress can be made in this growing epidemic.

In summary, the problem of childhood overweight is increasing and interventions will be required at a variety of levels our society in order to reverse the trend. Parents need school and community support in order to break down the barriers that they face in implementing healthful lifestyle practices with their children. Coordinated School Health Programs, which are multidisciplinary efforts that combine school, home, and
community resources, are recommended as the most effective means to establish healthful habits of exercise and good nutrition in children, and to reverse the current trend of childhood overweight.
APPENDIX A

SURVEY
This survey is being conducted by Sharon Vejnar, a school nurse in the Corona-Norco Unified School District. The goal of this survey is to understand parents' perspectives regarding children's weight, physical activity, and eating habits. Surveys are being distributed to parents of K-6 students in Norco Elementary School. Please do not sign your name to the survey, or write your child's name on any answer, as all responses are anonymous.

This research has been approved by the Institutional Review Board at California State University, San Bernardino. If you have any questions or concerns, you may contact Dr. Kim Clark, M.A. Ed. Program Coordinator, at (909) 537-5323. You may choose not to participate in this survey, as participation is entirely voluntary.

Thank you very much for your time and willingness to participate in this survey.

DIRECTIONS: Please complete each question to the best of your knowledge, then place your completed survey in the envelope provided. Seal the envelope and send it back with your child to her/his teacher by (date).

* * *

1. What grade is your child in?

   K 1 2 3 4 5 6

2. What is the gender of your child?

   Male    Female

3. Are you aware that childhood obesity is now recognized as a serious nationwide health problem? (circle)

   Yes    No    Not Sure

   NOTE: If your answer to question # 3 was "No" or "Not Sure", please skip question 4 and proceed to question 5.

4. How did you become aware of the childhood obesity problem? (Circle all that apply)

   Television    Radio    Doctor or nurse
   Newspaper     Magazines  Seeing obese children
   Other:_________________________________________________
5. In your opinion, do you agree that childhood obesity is a problem in our society? (Circle)

Yes  No  Undecided

6. How likely is it that childhood obesity is caused by the following reasons? (Circle)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Highly Unlikely</th>
<th>Somewhat Unlikely</th>
<th>No Effect</th>
<th>Somewhat Likely</th>
<th>Very Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetics/heredity</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lack of exercise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Poor eating habits</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Unsafe streets or neighborhoods</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Media advertising</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Time spent on TV or video games</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Fast food restaurants</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other: ______________________</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

7. In general, how effective do you think each of these suggestions would be, to help maintain proper weight in children? (Circle)

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Very Ineffective</th>
<th>Somewhat Ineffective</th>
<th>Moderately Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise at home</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Healthy meals at home</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Exercise at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Healthy meals at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Exercise (sports, recreation) in our community</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Healthy food/restaurants in our community</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Information and advice from doctors and nurses</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

8. Do you wish your child exercised more, or was more physically active? (Circle)

Yes  No  Not sure

NOTE: If your answer to question #8 was "yes," why doesn't your child get more exercise? (Circle all that apply)
Not enough time
There is no convenient place

It's boring to him/her
He/she prefers to watch TV or video games

Transportation problems
Cost of sports equipment or club membership

As a parent, I have not encouraged my child to exercise
As a parent, I do not exercise or engage in sports with my child

Other: ________________________________

9. Do you wish your child would eat healthier foods? (Circle)

Yes  No  Not sure

NOTE: If your answer was “yes,” why doesn’t your child eat healthier foods?
(Circle all that apply)

My child is a picky eater
Healthy meals are not served at school
My child doesn’t know about good nutrition
Too many junk food snacks are available
My child is not hungry at mealtime

Other: ________________________________

As a parent, I do not have enough time to prepare healthy meals
As a parent, I do not have enough money to purchase healthy foods
As a parent, I lack knowledge about good nutrition

Other: ________________________________

10. In your opinion, what would be helpful for parents who are concerned about their children’s weight? (Circle all that apply)
<table>
<thead>
<tr>
<th>Newsletters</th>
<th>Community activities</th>
<th>Radio programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television programs</td>
<td>Magazine or newspaper articles</td>
<td></td>
</tr>
<tr>
<td>Parent meetings/support groups</td>
<td>Children's classes/support groups</td>
<td></td>
</tr>
<tr>
<td>Advice from doctor or nurse</td>
<td>Other: __________________________</td>
<td></td>
</tr>
</tbody>
</table>

11. How much does your child weigh?  
Pounds __________

12. How tall is your child?  
Feet _______ Inches _______

13. What is the ethnicity of your child?

Additional comments: ____________________________________________  
________________________________________________________________
________________________________________________________________

Please place the completed survey in the envelope and send it back to school.

Thank you for your input.  
It is greatly appreciated.
APPENDIX B

INSTITUTIONAL REVIEW BOARD PERMISSION TO CONDUCT RESEARCH
DATE: October 14, 2005

TO: The Institutional Review Board, California State University San Bernardino

RE: Agreement to conduct a study "Barriers To the Implementation of Weight Management Practices by Parents of Elementary Students"

I understand that Sharon Vejnar will be conducting a study in which parents will be surveyed regarding their perceptions of their child's weight status and possible barriers to implementing healthful practices. This is an anonymous survey to be sent home, completed by each parent, and returned in a sealed envelope. No parent or student identifying information will be collected.

I have reviewed the draft survey, and am giving permission to Sharon Vejnar to conduct this study in selected K-6 classrooms at Norco Elementary School.

Sincerely,

Terry Sutton, Principal
DATE: October 14, 2005

TO: The Institutional Review Board, California State University San Bernardino

RE: Agreement to conduct a study “Barriers To the Implementation of Weight Management Practices by Parents of Elementary Students”

I understand that Sharon Vejnar will be conducting a study in which parents will be surveyed regarding their perceptions of their child’s weight status and possible barriers to implementing healthful practices. This is an anonymous survey to be sent home, completed by each parent, and returned in a sealed envelope. No parent or student identifying information will be collected.

I have reviewed the draft survey, and am giving permission to Sharon Vejnar to conduct this study in selected K-6 classrooms at Norco Elementary School.

Sincerely,

Terry Sutton, Principal
APPENDIX C

SCHOOL AND SCHOOL DISTRICT PERMISSION

TO CONDUCT RESEARCH
December 14, 2005

Ms. Sharon Vejnar
c/o: Professor Kim Clark
Department of Health Sciences and Human Ecology
California State University
5500 University Parkway
San Bernardino, California 92407

Dear Ms. Vejnar:

Your application to use human subjects, listed, "Barriers to Implementation of Weight Management Practices by Parents of Elementary Students" has been reviewed and approved by the Chair of the Institutional Review Board (IRB) of California State University, San Bernardino and ensures that your application meets the requirements for exemption from IRB review Federal requirements under 45 CFR 46. As the researcher under the exempt category you do not have to follow the requirements under 45 CFR 46 which requires annual renewal and documentation of written informed consent which are not required for exempt review category. However, exempt status still requires you to attain consent from participants before conducting your research.

Although exempt from federal regulatory requirements under 45 CFR 46 the CSUSB Federal Wide Assurance does commit all research conducted by members of CSUSB to adhere to the Belmont Commission's ethical principles of respect, beneficence and justice. You must, therefore, still assure that a process of informing consent takes place, that the benefits of doing the research outweigh the risks, that risks are minimized, and that the burdens, risks, and benefits of your research have been justly distributed.

You are required to notify the IRB if any substantive changes are made in your research prospectus/protocol, if any adverse events are experienced by subjects during your research, and when your project has ended. Failure to notify the IRB of the above may result in disciplinary action. You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, IRB Secretary, Mr. Gillespie can be reached by phone at (909) 880-5027, by fax at (909) 880-7028, or by email at rggilles@csusb.edu. Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely,

Joseph L. Gillespie
Chair
Institutional Review Board

cc: Professor Kim Clark, Department of Health Sciences and Human Ecology

---

CSUSB
INSTITUTIONAL
REVIEW BOARD

Exempt Review
IRB#: 05019
Status
APPROVED

---

The California State University
Bakersfield • Channel Islands • Chico • Dominguez Hills • Fresno • Fullerton • Hayward • Long Beach • Los Angeles • Maritime Academy
Northridge • Pomona • Sacramento • San Bernardino • San Diego • San Francisco • San Jose • San Luis Obispo • San Marcos • Sonoma • Stockton

82
APPENDIX D

ADDITIONAL COMMENTS WRITTEN

BY SURVEY RESPONDENTS
Research – Additional comments from respondents

1. 13. None of your business. She is human race.

5. 11. (Weight not listed). My child is not overweight. Additional comments at end of survey: School lunches lack any nutritional value. They are appalling – kids pick a slice of pizza and a milk, usually chocolate milk. I only allow my kids to buy once a week. To count a ketchup packet or lettuce leaf as a vegetable serving is offensive.

6. 6. Other: Lack of parental guidance. Additional comments: I have a question — How do you go about talking to a close friend with 2 out of 3 kids that are border line obese? (Listed her name and phone #)

9. 4. By my sister and Inlaws
8. he find
9. I believe that they eat very good!
I answer yet because me as a mother I would like to great a have bet. Maybe I lack little of everything but I stray my best for them to eat healthy every day, time,
13. lean

10. 9. My child does not like vegetables

12. 4. All of these
7. Lack of attention

13. Additional comments: Que les den a los ninos comida mos nutritive en la escuela.
Translated: That they give the children more nutritious food at school.

14. 4. Internet
6. Other: A combination of factors depending on individual.
8. I do not feel it is safe (kidnapping) to let him run around outside without supervision, and as a parent, I have other things to do – cook, clean, etc.
10. Other: Healthy fast food options

19. 9. Other: Picky and doesn’t like a lot of fruits and vegetables.
10. Exercise programs 4 kids.

20. 6. Other: Computer/Internet
12. Respondent did not answer but wrote in “? second grade.”
21. Depression – lack of parental support – parents (both) seem to be @ work all day – and then like to please children the quick and easy way – to fast food or whatever they want (their child)

7. Beside “Exercise in our community” parent wrote: This one is definite and crucial.

8. Other: The reason I circled it is because my kids are not in cheer or football - but, when they are they loose weight and are very much in shape.

22. She eats healthy/except at school.

10. Other: Healthy lunches @ school. PE everyday in school.

11 and 12. (Height and weight not listed). Two slashed marked through answer area). She is not overweight,

Additional comments: School lunches are terrible. A lettuce leaf or ketchup counting as a vegetable, they should be a shame. Offering pizza everday. Its all they pick, my kids don’t even understand what the “salad bar” is.

24. Other: Discovery Health channel.

6. Computers

9. Everything I prepare my daughter complains. All she wants is fast food.

26. Additional comments: Que les den comida mas nutritive alos ninos en la escuela.

Translated: That they give the children more nutritious food at school.

27. Other: Work in the medical field

8. Other: Winter time gets dark too early

9. Other: More veggies

29. Other: Time. I don’t have time.

31. He is very active.

Additional comments: My son lost 5 lbs this summer playing football. Even as active as he is this was the best exercise for him.

32. My child is active enough.

9. Other: My child does eat healthy, but it doesn’t hurt for him to at even healthier.

33. Other: All of the above.

8. They are very active

35. Not sure but I know he’s not overweight. He’s 8 years old and wears a 7-8 size.

37. Other: Mi hija es un poco fleja para el ejercicio.

Translated: My daughter is a little lazy about exercising.
9. Other: Mi hija algunas de las cosas nutritivas no le gustan.
Translated: My daughter doesn’t like some of the nutritious things.

39. 6. Other: Reduced physical activity programs in schools.
8. My children are pretty active, but we have to work at it — its not an integral
part of our society anymore (eg- many places aren’t within walking
distance, can’t incorporate bike riding for errands since there aren’t many
place with places to lock up the bikes, etc)
I often make my children lunch because of the unhealthy choices available
at school.

42. 6. Other: Estres.
Translated: It’s three
Translated: … but they prefer something else.
Additional comments: Tendre mas tiempo y atencion para mis ninos sobre
la limentacion y nutricion y ejercicios para ellos gracia por la
preocupacion de la obecidad.
Translated: I will spend more time with and pay more attention to my
children regarding eating and nutrition and exercise for them, thanks to
awareness on obesity.

43. 8. She’s in sports already
9. N/A

45. 6. Other: Parents watching above
Additional comments: Most parents know all this stuff already. However, it
is not a high enough priority for them to do something about it.

48. 6. Other: Soda
9. My child eats healthy but theres always room to improve. He is very active,
but does love video games. My son is far from obese.

49. 4. Other: Internet
8. Other: Both parents work

50. 6. Other: Not caring.
Additional comments: I believe my child has good nutrition at home but
many don’t and it’s becoming very obvious many overweight children and
think parent don’t care.

51. 4. Other: myself

53. 4. Other: News
8. Other: No season for sports she’s interested in.
Other: but too many junk food snacks are available everywhere!
Additional comments: My child does not have any neighborhood friends (close) so she’s not really allowed to play outside by herself – front yard or street.

55. 8. Other: Como madre yo age ejerricio con mis hijos.
Translated: As a parent, I exercise with my children.

9. Other: Yo trato de consinar saludable para mis hijos.
Translated: I try to cook healthy for my children.

56. 6. Other: Lack of good role models in parents. Parents who can’t say no.
9. Sometimes
Other: Some days are not as healthy as others.
Additional comments: I have control over the food my household buys – I don’t buy lots of junk or prepackaged food. Don’t buy TV dinners.

57. 8. In the winter months, yes because he can’t go outside and ride bikes or skateboard but he is involved in sports during this time. My child enjoys sports for his physical activity.

59. 6. Other: Estres.
Translated: It’s three.
Translated: … but they prefer something else.
Additional comments: Tendre mas tiempo y atencion para mis ninos sobre la limentacion y nutricion y ejercicios para ellos gracia por la preocupacion de la obecidad.
Translated: I will spend more time with and pay more attention to my children regarding eating and nutrition and exercise for them, thanks to awareness on obesity.

61. 8. Both my children are very active!

63. 8. Other: Exercise is not a high priority on a daily basis at school.
9. Other: Fast food is convenient.
10. Other: Better lunch at school.

65. 8. Other: My child exercises everyday
Add comments: My child is very active and loves sport but likes to eat doughnuts.

69. 4. I’m a teacher.
71. 8. She understands what being healthy will do for her and not being healthy. So I have no problem with her on that question.

9. 8 will give you your answer for quest.9.

72. 8. She's already in sports outside of school.

9. He does.

10. Other: How about following through, and listening.

73. 9. Lam

75. 6. Other: Parents not preparing proper meals and being accountable for their children's nutrition and eating habits.

9. Other: He is not with us all the time.

10. Other: Making parents bear the medical bill in full for weight related illnesses

Additional comments: Parents nowadays are lazy about their own health and therefore the children's as well. They want to blame external factors instead of taking responsibility for themselves and their children.

77. 6. Other: Ignorant parents.

Additional comments: TVs as babysitters are at the heart of this issue.

81. 6. Other: Emotional problems.

9. Other: We eat healthy meals but then the ice cream man comes to visit. Smile.

Additional comments: My child is in good health and right weight for her height.

84. 6. Other: Lack of parental guidance.

85. Additional comments: Pienso que la televisión es uno de los principales problemas de sobrepeso, por los anuncios publicitarios que promueven los alimentos no nutritivos y el tiempo que los niños pasan frente al televisor, por lo general de 3-4 horas por día.

Translated: I think television is one of the main problems for being overweight, because of the commercials that promote food that is not nutritious and the time children spend in front of the television set, generally 3-4 hours a day.

87. 8. Other: My child is very active – he plays football or basketball with his brothers.

9. Other: I always cook for my children, very rare they eat junk food, except at school during.

89. 8. Other: Local childrens sports to expensive for kids to participate in.

Additional comments: She eats really good most of the time, she wants to
play sports and other activities, however, they are to high for my family to participate in.

91. 9. Other: Ease of fast food/lack of time to prepare nutritious meals.

92. 10. Other: We have been working at it at home, She has lost 17 pounds.

95. 3. About time!
4. Other: Fat is not healthy.
10. Other: Recognize there is a health problem with their child being heavy. Additional comments: The friends I know that have children that are very over weight shove food in their mouths to pacify them (since birth). They don’t see a problem with the child’s weight.

96. 6. Other: Lack of parent knowledge of the above.
9. Other: Kids naturally lean towards sugary desserts and snack foods. Other: Healthy grocery shopping is definitely way more expensive than junk food, ie: terrible food at school and hard to always afford at home.
10. Other: Children’s classes for all kids, and don’t separate overweight children and single out. Additional comments: Good luck! I think, money, lack of, is a major contributor to this problem. Our son is enrolled in sports 10 months out of the year. To join and purchase all necessary equipment costs hundreds of dollars for just 1 child. It’s difficult, but pretty much the only exercise he gets. School time for sports and activities is very minimal until high school. Cost of fresh fruits, veggies, healthy bread, etc. is much more than easy and convenient fast foods and pre-made meals.

98. 8. Other: Asthma

99. 8. Other: Your question to #8 was confusing relating to this!
9. Other: Same! Question #9 is not clear to next question.
11. Proper.
12. Average. Additional comment: Obesity I believe is more of a concern by parent, that the child but the end result is with the minor.

102. 9. Meals (at school) could be better. Soft pretzels are not my idea of healthy. Other: Could eat more fruits

104. Additional comments: Who does menu for breakfast and lunch at school? Can the meals be healthier?

103. 9. Already try providing balanced diet.

105. 6. Other: School nutrition (sodas, snacks, etc.)
10. Other: Specific food programs at school.
   Other: specific food programs in community (ie. Weight Watchers)

107. 9. Other: My child eat good, but eats in small portions and doesn’t care for
       Much gran vegs.

109. 8. We do not have any (video games).
   10. Other: More PE at school.

112. 8. He is very active!
   9. So so (written beside healthy meals at school).
   11 and 12. weight and height are approx – he is slim and muscular

113. 6. Other: Lack of proper balance in all of above
   9. Other: Generally try to provide a balanced diet. (as a parent)

114. 4. I work with children/ teach PE
   8. He’s very active
   9. He eats good food

115. 4. I work with children
   6. Other: Lack of parental influence/guidance
   8. He is very physically active
   9. He eats good food
   13. Additional comments: We need to push for qualified PE teachers in the
       elementary schools.
REFERENCES


