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Healthy Lifestyle Changes and Academic Improvement

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This is to certify that the doctoral study by

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Walden University
2017

Abstract

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MA, Antioch University, 2002

BA, University of Northern Colorado, 1991

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Many children in U.S. K–12 schools struggle with childhood obesity. A healthy lifestyle taught in a child's early years is essential for student learning, and it can set the pace for healthy choices to be made in adulthood. The purpose of this exploratory case study was to explore the experiences of parents in Montgomery County, Ohio, who successfully improved their children's health and academic grades. The transtheoretical model of behavior change grounded this study to evaluate the willingness of children and adults to take action on new health and wellness behaviors that can lead them through the stages of change to action and maintenance. The study was guided by 1 overarching research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources, and reported improved health and improved academics? Specifically, the research subquestions asked about the successes, challenges, and strategies applied. This case study targeted 6 parents who guided their 6th grade children for at least 6 months on changing their health and wellness habits. Qualitative data were gathered and coded from structured interviews listing noteworthy statements and identifying patterns. The data were analyzed using data reduction, data display, and conclusion drawing. According to the study's findings, children who ate healthy, got proper rest each night, and engaged in daily physical activity lost weight, felt better, and performed better in school. This study contributes to positive social change by providing parents with strategies to improve health and wellness and academics in their overweight children.

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Dedication

This research is dedicated to my daughters, Katana and Kyetra. May your wingspan know no boundaries. Aunt Millie, I miss you. I ask your spirit to continue guiding me. Rest in heaven. Uncle Joe, here you go. I wish your earthy form didn't leave me so soon. Thank you for the encouragement to complete this journey. Rest in heaven. Moe, keep guiding me brother, I still need and love you. Rest in heaven. Daddy, now I can relax. I love you all madly.

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Giving honor to God first, to my father H. D. Williams and my late aunt Millie Rodrigues for always pushing me forward in any endeavor I pursued. To Dr. Edward Kim, doctoral chair, Dr. Miranda Jennings, committee member, and Dr. Bonita Wilcox, URR, and Dr. Judith Blakely, thank you for your patience and guidance through this work. To Dr. Rubye Braye and Dr. Ty Stone, thank you for the jumpstart that I needed, and for all of your knowledge, coaching, and encouragement. My late brother and ace Moses Montgomery #LiveInTheMOEment. To my late uncle Dr. Joseph Windham, thank you for always knowing who I am, even when I wasn't so sure. #IAMJOSEPHWINDHAM. Daddy, I am finished.

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Chapter 1: Introduction to the Study

Background of the Study

Childhood obesity is considered a national epidemic that has increased significantly in the last 30 years (Centers for Disease Control and Prevention [CDC], 2012). In spite of the efforts of government officials, researchers, the media, and industry professionals, the number of obese children and adolescents in the United States is growing. Obese children are at a high risk for diseases, such as diabetes, heart disease, hypertension, and other illnesses that were once reserved for older adults (CDC, 2012). Gardner (2012) asserted that obesity, which aligns with lower school performance from as early as kindergarten, could well damage the long-term college and career prospects of young people. Wellness and fitness levels positively impact academic achievement scores (Torrijos-Niño et al., 2014). Children who consume nutritious regular meals and partake in regular exercise 3 to 5 days per week have good health, fewer academic behavioral problems, and improved academic success (Shi et al., 2013).

More than a third of children in the United States are overweight or obese, according to the CDC (2012). The main risk factors for childhood obesity are the weight of the parents and poor eating habits formed during childhood (CDC, 2012). The childhood obesity epidemic is the result of several factors, inclusive mostly of behavior, environment, socioeconomic status (SES), and some genetic predisposition (National Center for Health Statistics, 2012).

In addition, obese children are at risk for learning difficulties that could impact their education negatively (Coe, Peterson, Blair, Schutten, & Peddie, 2013). London and

Castrechini (2011) compared students who were in good health and physically fit with students who were not and found disparities in math and English test scores. Obese children had higher rates of challenges while in school, including depression, attention deficit hyperactivity disorder, learning disabilities, self-esteem issues, and developmental impediments, all of which affect children's academic progress (as cited in Esteban-Cornejo et al., 2014). Gardner (2012) concluded that obese female students usually score lower on tests than those females who are within weight standards, are more likely to repeat a grade, and are less likely to attend college.

According to Li and Hooker (2010), children attending U.S. public schools have higher body mass indexes (BMIs) than children who attend private schools, regardless of SES and eligibility to partake in free or reduced-cost lunch or breakfast programs at public schools. Rabin (2011) stated that schools and school lunches play a role in the childhood obesity epidemic in the United States because many schools rely on less expensive foods that are high energy, but nutritionally useless. Significant problems with the public school meal program are the excessive intakes and usage of saturated fat and sodium. Because school meal programs have significant importance in students' nutrition, there are several areas for improvement regarding the food choices that these meal programs offer (Rubin, 2011).

Yau, Castro, Tagani, Tsui, and Convit (2012) suggested that obesity may cause damage to the brains of young people, which could result in lower test scores and hinder their learning. Wirt, Schreiber, Kesztyüs, and Steinacker (2015) also shared that children's cognitive abilities are associated with their body weight. A number of health

issues, termed metabolic syndrome (MetS), have been linked to obesity (CDC, 2012). This grouping contains symptoms associated with the development of heart disease and diabetes, such as high blood pressure, low levels of good cholesterol, high triglycerides, a large waistline, and a refusal to accept to insulin (CDC, 2012). Yau et al. (2012) found that adolescents with MetS did not perform as well in school as peers of average weight. Yau et al. concluded that obese adolescents are at risk for poorer academic and professional achievement. Yau et al. reported that the young people with MetS scored lower on math, language arts, concentration, and mental agility. The MetS adolescents also took longer to complete tasks, and Yau et al. found that the students with MetS also had issues of memory.

The hippocampus is responsible for learning and memory. The more symptoms that the adolescents showed suggesting MetS, the more evident the effects on the brain became (Yau et al., 2012). In comparison to their normal weight classmates, obese students generally displayed more emotional challenges, which could cause learning disruptions (Torrijos-Niño et al., 2014), and obese females, as opposed to males, demonstrated inferior social skills (Gardner, 2012). Raji et al. (2009) reported that people who are overweight had 4% less brain tissue than those within weight standards, and obese people had 8% less brain tissue than those whose weight standards fell within BMI standards of good health.

Obesity in children, as well as adults, is measured on a BMI scale. The BMI is a measure of weight adjusted for height used to establish weight classes. Because children's body compositions change so frequently over time, along with the distinctive

rates of growth for boys and girls, the BMI for youth is specific to age and gender. The BMI for age is determined by means of gender-specific growth charts that put children into percentiles comparative to weight and height (CDC, 2013b). Weight categories are determined based upon percentiles, so underweight falls into the 5th percentile, normal weight falls into the 5th to 85th percentile, young people at risk of becoming overweight fall into the 85th to 95th percentile, and overweight falls into the 95th percentile and above (CDC, 2013a). Percentiles are the most commonly used guides to measure the size and growth patterns of U.S. children. The percentile implies "the relative position of the child's BMI number among children of the same sex and age" (CDC, 2013b, p. 1).

In addition to experiencing learning difficulties, poor academic performance, and ailing health, overweight and obese children often experience social discrimination at an early age. The psychological stress of social stigmatization can be harmful to academic and social functioning, and this stress can continue into adulthood (Health Problems and Childhood Obesity, 2013).

Local Problem

The Southwest Ohio community is aware of the danger that childhood obesity has in its local school district, and Ohio is now the 16th most obese state in the nation (Trust for America's Health, 2014). Ohio's overall obesity rate is 30.4%, up from 30.1% in 2012 (Trust for America's Health, 2014). The overweight/obesity rate of Ohio children aged 10–17 is 34.9% ranking 14th in the United States (Trust for America's Health, 2014). GetUp Montgomery County (Public Health–Dayton & Montgomery County, 2015), a county obesity prevention resource that works to improve healthy eating and

active living among its residents, reported that overweight/obese children in Montgomery County is up to approximately 33%. The Ohio Action for Healthy Kids (OAHK, 2015) claimed that "healthy students are better learners" (p. 1). The principles of local health and wellness resources in Montgomery County align with the national standards of health and wellness. These are 60 minutes of daily physical activity, minimizing sugary treats and drinks, eating five servings of fruits and vegetables a day, and spending no more than 2 hours watching television and/or playing video games (CDC, 2013b). The OAHK shared that the health and wellness guides found through local community health and wellness resources not only produce healthier children, but children who perform better in the classroom. These guides include an hour of daily physical activity, which is stated to increase brain activity even in moderate amounts (OAHK, 2015). A healthy diet, coupled with physical activity in school children, also relates to better academic success (Bradley & Greene, 2013).

I explored the experiences of how parents guided their children to improving their health and academic grades by adopting healthy lifestyle habits that they learned from local community health and wellness resources. The children who were successful changed their health and wellness habits for a minimum of 6 months. Parents reported a weight reduction between 10 and 30 pounds, or a BMI drop of at least 5%, and a minimum of one letter grade improvement in either math or English after completing the program.

Statement of the Problem

Childhood obesity levels of grade school children in Montgomery County, Ohio, can have negative effects on the children's health and academic success. According to Torrijos-Niño et al. (2014), academic performance is compromised in children who have a high BMI and do not get sufficient physical activity. The CDC (2012) claimed that children who are introduced to healthful eating patterns also perform better in school.

With Ohio listed as the 16th most obese state in the nation, it was necessary to explore effective obesity prevention in this local and national epidemic. The percentage of Ohio children aged 10–17 who are overweight or obese was 34.9% and ranked 14th in the United States (Trust for America's Health, 2014). The percentage of school-aged children who were overweight or obese in Montgomery County was approximately 33% and has increased by over 18% over the last 10 years (OAHK, 2015). Communities play a role in setting the foundation for the dietary and physical activity behaviors of children and adolescents (Rabin, 2011). Communities can create environments that support children's' efforts to eat healthy and be active by implementing policies and practices that support healthy eating and regular physical activity and by providing opportunities for students to learn about and practice these behaviors. Children and adolescents who are obese are subject to learning difficulties and health issues, such as heart disease, Type 2 diabetes, strokes, and cancers that will affect them into adulthood (CDC, 2012).

Raji et al. (2009) posited that obesity can impact learning and that overweight people had 4% less brain tissue than people of normal weight and obese people had 8% less brain tissue than people of normal weight. Many possible factors were contributing

to this problem, including genetics, behavior, environment, and sociodemographics. Certain genetic traits can also increase a person's susceptibility to extra body weight (Esteban-Cornejo et al., 2014). Patterns in nutritional intake, physical activity, and sedentary behaviors also can be factors in weight gain (CDC, 2012).

Nature of the Study

The purpose of this exploratory case study was to discover the experiences of parents who reported that their children improved their health and school grades through local community health and wellness resources. Scholars have supported the connection between good nutrition, physical activity, and academic success. However, researchers have not determined how those who were successful in attaining such success accomplished it.

I collected my data through one-on-one telephone interviews (Stake, 1995). I interviewed six parents whose sixth grade children changed their health and wellness habits for at least 6 months using local community health and wellness resources and who showed improved health and academic success after completing the changes. The improved health and academic success was deemed through parents reporting that their child lost 10–30 pounds, or lowered their BMI by at least 5%, and who improved their math or English scores by at least one letter grade. I collected data over a period of 3 weeks.

Research Question and Subquestions

The study was guided by one overarching research question: What are the experiences of the parents who guided their children through lifestyle changes using local

community health and wellness resources and who reported improved health and improved academics? Three subquestions were important in supporting the research question:

1. What successes were experienced?
2. What challenges were experienced?
3. What strategies were applied for kids to improve their health and academics?

Purpose of the Study

The purpose of this case study was to explore the experiences of parents who reported that their children were successful improving their health and academic grades using local community health and wellness resources. Southwest Ohio county has several local health and wellness resources with the mission of targeting obesity and sharing healthy lifestyle information with members of the community.

Exploring the experiences of these parents could create a trend for more communities and schools to change and teach healthy habits, increase physical activity, and create or adopt healthier menus and/or means of food preparation. These changes could produce healthier children, who will become more successful academically and more productive to society. I identified what parents did for their children that was essential to their improved health and academic success. I used the data to develop a list of the successful experiences that the participants used to assist their children in managing their weight, increasing their physical activity, and making healthy lifestyle choices. This research can provide information that might be used in ensuring a healthy and academically successful young generation.

Conceptual Framework

The transtheoretical (TTM) model of behavior change and the stages of change are used to evaluate a child's or an adult's willingness to take action on a new and healthier behavior; The TTM offers plans of action leading a person through action and maintenance (Greene et al., 1999). Prochaska and Velicer (1997) explained this change as a process relating progress within a series of stages. TTM was relevant to this study as a model that explains the stages people endure before, during, and after adopting a change in lifestyle. The TTM has four core constructs. Each construct is vital because each represents a certain element of time. Historically, changing a problem behavior, such as eliminating smoking or alcohol or overeating, was viewed as an act to be kept private, discreet, or even taboo. According to the TTM, change is a process that happens over time through a series of six stages, even though they are not always followed in order. These stages are precontemplation, contemplation, preparation, action, maintenance, and termination (Prochaska & Velicer, 1997).

The health belief model (HBM) is a health behavior change and psychological model. According to the HBM, a person's belief in a personal threat, along with his or her belief in the success of such behavior, will foresee the success of that behavior (Rosenstock, Strecher, & Becker, 1988). HBM was relevant to this study as a model in that interventions for obesity can be successful once a person fully accepts what is associated with being obese. The HBM is used in many psychological and medical fields to assist in determining and reaching an understanding of individuals' health thoughts, behaviors, and wellness.

Definitions of Terms

Obesity: Excess body fat (Krebs et al., 2007).

Overweight: Excess body weight for a particular height from fat, muscle, bone, water, or a combination of these factors (Krebs et al., 2007).

Delimitations/Scope

I delimited the scope of the study to parents whose children used local community health and wellness resources in Montgomery County. I excluded additional Ohio counties from this research because I researched parents in Montgomery County. The scope of the study extended to the Montgomery County parents whose children used local community health and wellness resources and who reported improved health and school grades after implementing the suggested lifestyle changes offered through local community health and wellness resources.

Assumptions

In this study, I assumed that physical fitness and healthy eating are essential to good health and improved academics in sixth grade students. I also assumed that the participants would understand the questions and be honest in their responses in the interviews. I assumed that the interview guide was reliable and valid.

Limitations

I obtained information from a small sample, which limited my ability to make generalizations because sampling was restricted to parents living in Montgomery County. The findings were limited to the analysis of the data collected. Other limitations included my experience as a researcher, training and time limitations, the participants'

understanding depending upon my communication skills, and the possibility that my instructions might be misunderstood or questions misconstrued if the participants did not fully understand the questions. The data were self-reported. The parents reported that their children were successful using local community health and wellness resources by losing 10–30 pounds or lowering their BMI by at least 5%, which improved their health and improved their academics by improving their math or English scores by at least one letter grade after completing the changes.

Significance of the Study

This study was applied to the local problem of obesity in Montgomery County children by sharing the experiences from parents who reported their children's improved health and academic success using local community health and wellness resources. These parents reported their children's health improvements and academic success with the resources after their children abided by the health and wellness guidelines for at least 6 months. The state of Ohio ranks high among states with high obesity rates. In Montgomery County the childhood overweight/obesity rate increased from approximately 25% in 2009 to approximately 34.9% in 2014 (Ohio Department of Health, 2015). The young obese population are not only at risk for adult health problems but learning difficulties, such as performing poorly on tests (Fahlman, McCaughtry, Martin, & Shen, 2010), repeating a grade, becoming less likely to pursue college, having a decrease in brain tissue (Raji et al., 2009), experiencing low self-esteem, feeling depressed, and lacking energy (Torrijos-Niño et al., 2014). Sleep disorders can lead to students missing school; they also can drain the body of natural energy (Gardner, 2012).

Sadness, loneliness, or anxiety might disrupt school performance, and obese students might experience more challenges in paying attention. Ridicule from other students, including the students' own negative self-perceptions, might prevent them from participating more often in class (Gardner, 2012). As obese children enter adulthood and the workforce, their health issues will affect their productivity and add to their employers' health expenses. Employees with obese children also might be less productive workers because they will miss hours on the job attending to obesity-related health needs of their children (Healthcare Leadership Council, 2012).

The negative effects of obesity on children's education, productivity, health, and success could lead to increased high school dropout rates, lower ACT/SAT scores that could affect college admission, and unemployment (Gardner, 2012). Analyzing the healthy changes that were the result of following local community health and wellness resources could facilitate positive changes in other counties, communities, and families. As the lifestyle changes shift positively, the changes could directly impact students not only, parents, teachers, and administrators, but also the communities as new generations of healthy, educated, and prepared young adults begin to contribute to society.

Organization of the Remainder of the Study

The study has five chapters. Chapter 2 contains a review of the literature; Chapter 3 includes the methodology; Chapter 4 contains the results; and Chapter 5 includes a discussion of the findings, the implications for social change, and recommendations.

Chapter 2: Review of the Literature

Introduction

The literature review includes a discussion of the history of childhood obesity, its impact on academic achievement, the TTM, the HBM, administrator roles, case study review, and different methodologies. I searched for information first by looking for books on the topic of obesity. Using the reference lists or indices in the books led to the discovery of other books and scholarly journals. I also conducted an online search using the ERIC database. Key search terms included *obesity*, *academic success*, *obesity and learning disabilities*, *healthy students and academic performance*, and *healthy and smart*. The reference lists in the journal articles led to other relevant articles.

History of Childhood Obesity

Childhood obesity is the consequence of eating too many calories and not getting sufficient physical activity (CDC, 2013b). Approximately 43 million U.S. preschool children under the age of 5 years were listed as overweight or obese in 2010, a 60% increase since 1990 (World Health Organization, 2013), and Karnik and Kanekar (2012) referred to this issue as a global public health crisis. Obesity is harmful to every system in the body, ranging from cardiovascular to brain function, and young people who are obese are prone to obesity throughout adulthood (CDC, 2012).

Genetics

According to the CDC (2012), hereditary factors can increase susceptibility to becoming overweight. There is a connection between genetics and the environment that can influence the amount of extra body weight. Overweight/obesity tends to run in

families, suggesting a genetic link (CDC, 2012). Karnik and Kanekar (2012) asserted that, in some situations, parental obesity is a predictor that children also will be obese. Ogden, Carroll, Kit, and Flegal (2012) explained some of the genetic trends in obesity over the past 40 years. In the 1970s, 5% of children in the United States ages 2 to 19 years were obese, according to the CDC's (2012) definition. By 2008, nearly 17% of U.S. children were obese, a percentage that continued through 2011 (Ogden, Carroll, Kit, and Flegal, 2012). Obesity is now more common in boys than girls 19% vs. 15% (CDC, 2012). The rates of obesity in boys increased significantly between 1999 and 2010, particularly among non-Hispanic African American boys; however, obesity rates in girls of all ages and ethnic groups have remained consistent (CDC, 2012). Hispanic American youth (21%) and non-Hispanic African American youth (24%) had higher rates of obesity than non-Hispanic European American youth (14%), according to Ogden et al. There is limited research explaining racial and ethnic differences in overweight and obese tendencies beyond basic sociodemographic characteristics and nutritional intake. These factors alone do not explain racial and ethnic differences in the overweight frequency rates among children (Kimbro, Brooks-Gunn, & McLanahan, 2007). Specific reasons for racial and ethnic differences in childhood obesity rates are lacking.

Behavior

Weight gain is the result of an energy imbalance (U.S. Department of Agriculture [USDA], 2013). When children eat more calories than they use, they will gain weight. The most common behaviors contributing to weight gain are poor nutrition, a lack of physical activity, and sedentary behaviors. Young people consume more high-calorie

convenience foods and beverages that have little nutritional value, they have fewer family meals, and they eat portion sizes that are larger than necessary (USDA, 2013). All of these reasons are contributing to the childhood obesity epidemic (USDA, 2013). In addition, many of these children do not begin to meet the nutritional guidelines recommended by the USDA (2013).

A lack of regular physical activity also contributes to childhood obesity. Being physically active can assist with effective weight maintenance; but, blood pressure and bone strength also can benefit (CDC, 2013a). The CDC (2013b) indicated that physically active children are more likely to remain physically active into adolescence and adulthood, thus minimizing the risk for weight-related diseases. The CDC (2013a) also asserted that children are less physically active during school, as well as at home, because many physical education programs are cut from curriculums, and fewer children walk to school.

Sedentary behaviors and excessive screen time with televisions and electronic devices have led to obesity. The levels of physical activity have decreased, and sedentary behaviors (ie., watching television, working on the computer, and playing video games) have increased. The USDA (2013) found that children ages 8 to 18 years spend more than 3 hours per day watching television, DVDs, and movies and playing video games. The CDC (2012) identified a connection between time spent watching television and the commonness of being overweight among children. These sedentary behaviors have replaced the time that children should be spending in physical activity, and it leads to increased calorie intake through extra snacking. In addition, eating meals while watching

television sways children to prefer high-calorie, low-nutrient foods through food advertisements; it also decreases children's metabolic rates (USDA, 2013).

Environment

The environmental factors that can lead to childhood obesity include those in the home, childcare, school, and community settings (CDC, 2013a). The school and community settings are environments that introduce and teach children about eating habits, basic nutrition, and physical activity. It is important for all children to have access to healthful food choices, as well as safe areas for physical activity. Advocating for creative school and community nutrition ideas and physical activity programs that ensure that sidewalks, bike paths, and parks in the community are well lit and provide security for children will help to change the culture of health and wellness for many children.

Sociodemographics

Certain ethnic minority and socioeconomic status populations have increased rates of childhood obesity (CDC, 2012). Low-income families deal with food insecurity (Coe et al., 2013). Increasing numbers of families do not know where their next meal will come from. Another challenge is the need for safe places for physical activity in many low-income areas. The lack of reliable access to healthful food options, particularly vegetables and fruits, remains a socioeconomic status challenge (Coe et al., 2013; USDA, 2013).

Increasing Portion Sizes

Portion sizes of foods and beverages with minimal nutritional value have increased over the years in restaurants, grocery stores, and vending machines. Children

eat more if they are served larger portions (USDA, 2013). Children are consuming too many extra calories, especially when eating high-calorie foods with little nutritional value (CDC, 2013a). The NIH (2010) noted that the portion sizes in the United States misrepresent what people believe to be normal, a habit that also affects how much people eat at home. The NIH suggested keeping food portions no larger than the size of a fist as one way of keeping calories and portion sizes in check. Larger portions mean excessive calories, which leads to extra weight and obesity.

Impact of Childhood Obesity on Academic Performance

The body of literature on the association between obesity and academic performance continues to grow. Florin, Shults, and Stettler (2011) shared that children who are deemed overweight or obese by a doctor are at risk for depression and poorer academic and social success. A connection exists between academic achievement and overall health. Bradley and Greene (2013) shared that students (regardless of socioeconomic status, race and gender) all scored higher on tests and showed significant improvement in grade point average (GPA) and general school tests when they had access to and had balanced diets, eat foods with high nutritional value, partake in regular physical aerobic activity in or outside of school, and get adequate rest.

The OAHK (2015) stated that healthy students are better learners. Esteban-Cornejo et al. (2014) shared that children who were not physically fit and had lower academic performance on tests and general schoolwork as compared with those with children who were physically fit. Basch (2011) believed that skipping breakfast has a negative effect on the cognitive performance of kids, meaning their levels of alertness,

attention, memory, problem solving, and mathematics skills. Skipping breakfast is a regular occurrence in children, not just in Southwest Ohio, but also across the nation (CDC, 2013a). When the first meal of the day is skipped, the metabolism of the child slows down, which is why breakfast is commonly referred to as the most important meal. It is critical to break the fast from the day before. When the metabolism of the body slows down, its ability to burn calories retards, causing the body to become overweight and possibly obese (CDC, 2013b). Another key component in local community health and wellness resources is the commitment to children consuming a nutritious breakfast (CDC, 2013b).

Wittberg, Cottrell, Davis, and Northrup (2010) noted that physical activity in or out of school may positively affect risks linked with childhood obesity. Having plans in place that promote and increase opportunities for physical fitness could heighten academic performance and promote the health and wellness habits that could improve overall health for children as they reach adulthood. Bustamante, Williams, and Davis (2016) noted that children who take part in regular physical activity have a stronger academic performance than children who live more sedentary lifestyles.

Castro and Oliveira (2016) further posited that children with strong cardiovascular health perform better in the classroom. Along with low cardiovascular endurance, higher BMI percentages have been associated with poorer academic scores, as well as lower attention spans for children in the classrooms (Chu, Chen, Pontifex, Sun, & Chang, 2016). Fleming, Pierson, and Howell (2016) also documented the relationship between strong health and fitness and positive academic performance in school-aged children.

Raji et al. (2009) concluded that obese people had 4% less brain tissue than people of normal weight, and obese people had 8% less brain tissue than people of normal weight. According to Raji et al., a 4% loss characterizes severe brain degeneration. Raji et al. explained that the areas of the brain that are affected by obesity are the frontal and temporal lobes, both of which are critical for planning and memory; the anterior cingulate gyrus, which is responsible for attention and executive functions; the hippocampus, which is significant for long-term memory; and the basal ganglia, which is essential for proper movement and coordination.

The negative effects of obesity on learning could be the result of the loss of brain tissue, which results in lower IQs (Brown, 2009). Brown (2009) concluded that because the ability to regulate attention is lessened, children are not able to remain focused long enough to take in information. The direct result is less learning. When children are obese, their long-term memory is damaged, so children are less likely to retain what is learned. These children can become clumsy through the effects of obesity because basal ganglia become overcrowded, resulting in a loss of coordination (Raji et al., 2009). Childhood obesity hinders children's ability to learn, and once these facts are understood accurately, researchers can discern a credible relationship between childhood obesity and learning disabilities.

American College of Sports Medicine [ACSM], American School Health Association, GENYOUth Foundation, and National Dairy Council (2013) explained that

> Brain functions can be enhanced in order to improve children's ability to learn [and] the area of the brain that controls functions relative to thinking, and

> concentration indicates that the school environment is key to the development of these areas. (p. 10)

The connection between the mind and body is an equally important concept. The way a child or adult thinks affects that person's health and vice versa (ACSM et al., 2013). The health of an individual, child, or adult can impact how that person thinks. ACSM et al. (2013) shared that school children with inadequate nutrition showed inferior academic performance, missed a greater number days of school, and had an overall decline in academic achievement.

The OAHK (2015) shared that cardiovascular exercise can positively change the way the brain functions in children. Kids who are given even a short brisk walk around the school showed increased brain activity, which produced better and faster performance on tests (OAHK, 2015). Local community health and wellness resources include, encourage, and promote such physical activity.

Parents will do whatever they can to ensure that their children have every advantage and opportunity to be successful in life, which includes providing their children with healthy diets. Heyes (2012) compared the dietary routines of more than 7,000 children, including traditionally prepared food at home, prepared and processed baby foods, breastfeeding, and junk foods. Heyes studied a connection between the eating habits of children at 6 months, 15 months, and 2 years, and their IQs at 8 years of age. Heyes found that children who were fed healthier diets at an early age had slightly higher IQs and that children who had diets of high amounts of junk foods had slightly lower IQs. Heyes also explained that a child's diet supplies the necessary nutrients for brain tissue

development the first 2 years of life. Heyes suggested that regular access to quality nutrition, regular consumption of breakfast, and more opportunities for physical activity might help students to reach their academic potential throughout the school year and perform better at testing times and beyond.

The ACSM et al. (2013) also confirmed the link between quality nutrition, physical activity, and academic performance. ACSM et al. stated,

> Brain imaging shows that children experience improved cognitive function and higher academic achievement after just 20 minutes of physical activity [and that] combining the many benefits of physical activity with good nutrition habits that support healthy weight can have a powerful impact on a child's potential to learn. (p. 3)

ACSM et al. also found that students need to eat breakfast because more than half (62%) of all adolescents say they do not eat breakfast every day of the week. Students who eat breakfast have better attention and memory than breakfast skippers. ACSM et al. also shared that three out of four high school students do not partake the recommended 60 minutes of daily physical activity. Students who were more active during school performed better on standardized tests for reading, math, and spelling (Gunter & Daly, 2013). These national statistics linking health and wellness to academic performance align with those shared by the OAHK (2015), a state partner with local community health and wellness resources.

Weight Loss and Academic Improvement

Hassevoort, Khan, Hillman, and Cohen (2016) examined the relationships between brain functionality with adequate nutrition, physical activity, and BMI with school-aged children. The hippocampus in the brain is responsive to functions determined by lifestyle factors (Hassevoort et al., 2016). Hollar, Messiah, et al. (2010) measured the effects of a school-created obesity intervention program that incorporated food and nutrition, health curriculum, and exercise components on BMI percentiles and school performance on elementary school kids. Hollar, Messiah, et al. found that the children diagnosed as overweight or obese children who decreased their BMI by at least 2.5% over the 2-year study had notably higher math and reading scores.

Hollar, Lombardo, et al. (2010) also shared findings from an obesity intervention program targeting low-income, school-aged children. The Healthier Options for Public Schoolchildren is a program created along the same guidelines as many of Montgomery County's local community health and wellness resources (Public Health–Dayton & Montgomery County, 2015). The intervention resources were designed to get and keep children at a healthy weight and to improve overall wellness and school grades. The Healthier Options for Public Schoolchildren intervention included the components of modified dietary offerings, healthy lifestyle education, physical activity, and wellness projects. The results were significant improvements in BMI, blood pressure, and school grades with these children (OAHK, 2015). Overweight and obese students who receive obesity intervention can improve health outcomes and academic performance in children.

Kao, Westfall, Parks, Pontifex, and Hillman (2016) investigated the relationship between aerobic and muscular fitness with memory and academic performance. Kao et al. showed that as muscularity increased in the children, so did their memory and their performance in school. Suchert, Hanewinkel, and Isensee (2016) also studied the relationship between the two and showed that cardiovascular and fitness endurance is associated with higher academic success.

TTM and Change

The TTM measured a person's desire to move forward on changing to new and healthier behavior, and the model offered strategies or processes of change to guide the person through those stages of change to action and then maintenance (Prochaska et al., 2008). The TTM (Prochaska et al., 2008) also is known as the stages of change (Greene et al., 1999). Armitage (2009) referred to the TTM as "arguably the dominant model of health behaviour change, having received unprecedented research attention, yet it has simultaneously attracted criticism" (p. 3).

The TTM was developed by Prochaska and colleagues in 1977. They further developed this model through research that they had published in peer-reviewed journals and books. From their early studies of smoking, they quickly expanded use of the TTM to incorporate large-scale issues and mental health behaviors such as eating disorders, obesity, high-fat diets, medication compliance, sedentary lifestyles, and preventive medicine (Glanz, Rimer, & Viswanath, 2008).

TTM Stages of Change

The TTM has four core constructs: stages of change, processes of change, decisional balance, and self-efficacy. Each core construct is detailed in the following text as explained by Prochaska and Velicer (1997). Each construct was important since each represented a certain element of time. Historically, changing a problem behavior such as quitting smoking, drinking, or overeating was viewed as an act to be kept private, discreet or even taboo. The TTM posits that change is a process that occurs over time through a series of six stages, even though they are not always followed in a specific order.

Precontemplation. In this stage, people have no intention on taking action immediately. This is usually measured as the next six months. The results and timing depend on the behavior. People can stay in this stage because they are unaware of the consequences of their behavior or they might have tried to change multiple times, but became frustrated about their ability to change successfully. These individuals are likely to avoid reading, talking, or even thinking about their risky behaviors. They are labeled as defiant, unmotivated, or as not ready for therapy or health programming. Another rationalization is that traditional health programs are not ready for them and are not motivated to match their needs (Glanz et al., 2008).

Contemplation. People in this stage intend to change their behaviors over the next six months. Unlike the precontemplators, they understand the benefits of changing, but they also are extremely aware of the disadvantages of changing. This struggle between the pros and cons of changing can create a great deal of doubt that can result in long term deliberation. This is often described as chronic contemplation or behavioral

procrastination. Thus, these people are also not ready for conventional treatment that would require them to act quickly (Glanz et al., 2008).

Preparation. People in this stage are working toward taking action quickly toward a certain behavior, as in the next 30 days, and have made some progress toward this change in the past year. These people are good for programs that are action oriented such as weight loss clinics, because they already have a plan of action. These plans of action could include, counseling, group therapy, or reading up on the issue at hand (Glanz et al., 2008).

Action. People in this stage have made obvious and in-depth changes within the past six months. The behavioral change is usually linked with this action since the action is so obvious. However, in the TTM, not all behavioral changes count as action. Commonly, people will complete goals that are deemed appropriate for assisting with a specific problem. For example, years ago, reducing the number of cigarettes or switching to low-tar and low-nicotine cigarettes would be counted as action. This would not be the case today. Nothing eliminates the risks of smoking other than quitting completely and only abstinence would be the accepted action (Glanz et al., 2008).

Maintenance. People in the maintenance stage have completed the necessary changes and are living their new lifestyle. They are also working to avoid a relapse, and do not use the change process as much as those still in the action stage because they have shown success. Maintenance people are able to resist temptation to relapse and are secure enough in themselves to continue with the modifications they created for themselves. Based upon temptation and self-efficacy data, Glanz et al. (2008) believe that

maintenance lasts from six months to five years. For example using smokers again, after a year of not smoking at all, 43% resumed smoking after only one year of abstinence. It was not until five years of continuous abstinence that the possibility for relapse was reduced to 7% (Glanz et al., 2008).

Termination. In this stage, people have zero temptation and 100% self-efficacy. These people know that they will never return to their former unhealthy habits, regardless of depression, anxiety, or any other stressor that life may present. One would never know these people had ever acquired such habits because their new behavior has become so routine. Examples are people who automatically take prescribed medication at the same time each day or people who routinely fasten the seatbelt before driving a vehicle (Glanz et al., 2008). In a study of former smokers and alcoholics, Snow, Prochaska, and Rossi (1992) reported that 20% of each group had reached the criterion of zero temptation and total self-efficacy. That percentage appears a bit low due to many people who deem termination as too stern and inflexible. Others view this as an ultimate goal. In areas such as dietary habits, exercise, and weight management, a reasonable goal may be a lifetime of maintenance because relapse temptations are so common. Termination has received much less research attention than the other stages.

Processes of Change

Processes of change are the secret and obvious actions people use to make their way through stages. Processes of change give the guidelines for intervention programs, since processes are like self-regulating entities that people use to go from stage to stage (Glanz et al., 2008). Ten processes have received the most empirical support in research

to date. Consciousness raising involves greater understanding about the causes, penalties, and treatments or cures for specific problematic behaviors. Ways to increase this awareness include feedback, confrontations, and interpretations. Role-playing, grieving, personal testimonies, and media campaigns are examples of methods that can move people emotionally. Self-reevaluation joins cognitive and affective assessments of one's self-image with and without unhealthy behaviors, such as imagining oneself overweight and as a physically fit person. Values clarification, healthy role models, and imagery are techniques that can move people evaluatively.

Environmental reevaluation combines affective and cognitive assessments of how the presence or absence of personal behaviors affect their social environment. An example is the impact of smoking on others. It also makes individuals conscious of their positive or negative role model status for others. Empathy training, documentaries, testimonials, and family interventions can lead to reassessments (Glanz et al., 2008).

Self-liberation is the belief in the capacity to change and the pledge and recommitment to proceed based upon that belief. New Year's resolutions and public testimonies are examples of self-liberation. Social liberation call for additional social opportunities or options, particularly for people who are underprivileged, exploited, or oppressed.

Advocacy, empowerment procedures, and necessary policies can create many opportunities for support for minority health, gay health, and health for deprived people. These same actions can be used to help all people to change, as seen with smoke-free zones or even salad bars in school lunchrooms. Counterconditioning calls for learning

healthier behaviors that replace problematic behaviors. Relaxation techniques, assertion, deep breathing, and positive self-affirmations are replacement strategies. Stimulus control eliminates reminders of unhealthy habits and replaces them with prompts for healthier choices. Avoidance, environmental reengineering, and self-help groups can provide stimuli that encourage change and decrease risks of relapse (Glanz et al., 2008).

Contingency management provides consequences for actions. Although involves the use of punishment, self-changers rely on reward much more than punishment. Reinforcements are highlighted because a value of the stage model is to work with how people transform naturally. Contingency contracts, overt and covert reinforcements, and incentives are procedures for positive recognition that will lead to greater chances that the healthier choices will continue. Lastly, helping relationships combine compassion, trust, open-mindedness, and tolerance, along with support for healthy behavioral change. Rapport building, therapeutic alliances, counselor calls, and buddy systems can be sources of social support (Glanz et al., 2008).

Decisional Balance

Decisional balance speaks to an individual comparing of the risks and benefits of changing. Originally, the TTM relied on Janis and Mann's (1977) model of decision making that was made up of four groups of benefits and four groups of risks. However, an easier two-factor structure was usually used—pros and cons of changing.

Self-Efficacy

Self-efficacy is the strength of a person's belief in their ability to complete tasks and reach goals (Ormrod, 2006). Self-efficacy influences all areas of personal

achievement, and relates to my research for example, in terms of how long a person would stick to a diet or workout plan. High and low self-efficacy determine whether or not someone will accept the challenge or give up.

This self-efficacy construct was integrated from Bandura's (1982) self-efficacy theory. By establishing the beliefs and values an individual has about their control to transform situations, it greatly sways the control a person actually has to knowingly face challenges as well as the choices they will most likely make. These outcomes are particularly clear, regarding behaviors that affect health (Ormrod, 2006).
Temptation is the reverse of self-efficacy and speaks to the urge to engage in certain behaviors while facing challenging situations. In general, three factors reflect the most common types of temptation: negative affect or emotional distress, positive social situations, and craving (Prochaska & Velicer, 1997).

Health Belief Model

The HBM is used in many psychological and medical fields to assist in determining and reaching an understanding of individuals' health thoughts, behaviors, and wellness. The HBM is a health behavioral change and psychological model. Rosenstock (1966) developed the model, which was further developed by Rosenstock et al. who in 1988, made significant changes to the model including proof about the role of knowledge and perceptions in personal responsibility. J. Ogden (2007) stated that the model was initially intended to forecast behavioral responses to treatment received by acutely or chronically ill patients. The model is used now to anticipate many general health behaviors. According to Rosenstock et al., the HBM proposes that the belief in an

individual threat, along with the belief in the effectiveness of the proposed behavior, will predict the probability of that behavior.

The HBM has four dimensions. In perceived susceptibility, people have extensive differences in their feelings of personal vulnerability to a condition. In regard to medically documented illnesses, this dimension now asks such questions as estimates of resusceptibility, belief in the diagnosis, and susceptibility to illness in general. This dimension refers to an individual's subjective view of the risk of contracting an illness (Janz & Becker, 1984).

In perceived severity, feelings concerning the severity of contracting an illness or of not treating it at all also vary among individuals. This dimension includes assessments of medical and clinical penalties such as death, disability, and pain; possible social penalties; and the effects of the conditions on work, family life, and social interactions (Janz & Becker, 1984).

In perceived benefits, even though a person's acceptance of their vulnerability to illness thought to be severe, and was expected to produce a desire to change, the specifics that were expected to happen were not clear. This outcome was understood to depend upon beliefs about the effectiveness of the various actions available in reducing the threat of the disease. For example, a person in danger is not expected to accept the recommended health action unless it is reasonable and effective (Janz & Becker, 1984). In perceived barriers, the possible negative features of specific health actions could become problematic to starting the behavior that could be helpful. According to Janz and Becker (1984), "A kind of cost–benefit analysis is thought to occur wherein the

individual weighs the action's effectiveness against perceptions that it may be expensive, dangerous, unpleasant, painful difficult, upsetting, inconvenient, time consuming and so forth" (p. 2).

Administrator Roles

The focus of the study was to research the experiences of parents who used local community health and wellness resources that helped to improve health and school grades in their children. I found it important to find resources associated with student health and performance. Although I found no books on the connection between good health and academic performance, I did locate a considerable number of journal articles and articles from public health organizations such as the CDC, the NIH, and the OAHK. The information was extremely important in stating that childhood obesity is a nationwide epidemic and that intervention is needed in an attempt to control and prevent the issue from exacerbating.

Schools are unable to solve the childhood obesity epidemic alone, but they are instrumental in implementing obesity intervention programs. Schools play an especially essential role because physical activity and information about healthy diets and lifestyles have been part of the U.S. educational experience for decades, so it is not as if schools are being asked to assume new or additional responsibilities.

Traditionally, researchers have studied the relationship between food and academic performance in terms of availability, ethnic traditions, and SES (Kleinman et al., 2002). They also have documented the connection among physical activity, nutrition,

and academic performance. However, there has been limited research on diet quality and academic performance, but this research has finally begun to emerge.

Case Study Review

Case studies are used to study the development of specific cases that can be individual or group (Yin, 2003). A case study is the study of a specific program, individual, phenomenon, or anything else that has definite boundaries. Case study can be bounded within a certain context and time (Merriam, 1998). Possibilities include investigating a specific person, program, school, or district. Another definition for a case study, according to Stake (1995): "Case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (p. xi). A case study is unique in that it is the catch-all study for any study that is not experimental, survey, or historical. It also is unique in that there are no specific designs for data collection or analysis (Merriam, 1998). A case study usually focuses on a phenomenon (Merriam, 1998). A quality of case studies is that they are full of rich, thick descriptions. This allows the phenomenon to be described in its entirety and it provides the boundaries for the study (Merriam, 1998).

Different Methodologies

I chose the qualitative approach over the quantitative approach because the objective of quantitative research is to create and make use of numerical models, theories and/or hypotheses pertaining to natural phenomena, which is helpful if statistics are needed (Trochim, 2006). I was seeking answers to the questions of how and why, as well as understanding. Case study, ethnography, grounded theory, narrative, and

phenomenology are the five most popular types of qualitative studies (Strauss & Corbin, 1998).

Ethnography is a study that investigates a specific group, such as a particular ethnic group or the male student population of a school. Grounded theory is a design that intends to establish a theory for a specific phenomenon (Yin, 2003). It usually incorporates large samples of people who have experienced a specific phenomenon to establish a theory that does not yet exist. A narrative study is effective in describing the order of events or depicting a specific event or life based upon a story. Lastly, phenomenology explains the meaning of a specific phenomenon, such as a program (Strauss & Corbin, 1998). I rejected ethnography because I am not studying a specific group or culture. Grounded theory is inappropriate because I will not be developing a new theory (Yin, 2003). A narrative study is not suitable because a story will not be told. Finally, I rejected phenomenology because I am not studying a single phenomenon (Merriam, 2009). The case study is an option that includes two or more observations of the same phenomenon. After considering several other qualitative approaches, I chose case study design because of the flexibility of data collection, the examination of the case, and the ability to study the use of the local community health and wellness resources with great depth using data from parents' experiences in real life context (Merriam, 2009).

Chapter Summary

The review of the literature highlighted the relationship between obesity and learning. It also presented different approaches that can be used to develop relationships

with students that will assist in leading by example. Finally, the literature review discussed the case study approach and other methods used in qualitative research. In Chapter 3, I discuss the study design and methodology.

Chapter 3: Methodology

Introduction

I designed this case study to explore the experiences of parents who used local community health and wellness resources improve their children's health and academics. In this chapter, I explain the research design, the context of the study, procedures assuring ethical protection of the participants, how I selected the participants the data collection and data analysis processes, and how I worked to assure validity and reliability.

Research Design

The purpose of this case study was to explore the experiences of parents who guided their children to change their lifestyle habits using local community health and wellness resources. The parents reported that their children had improved health and academic achievement resulting from the lifestyle changes. The resources were used in the Montgomery County, Ohio, setting. I selected a case study approach because it was the most appropriate way to explore the experiences of parents involved in the health and wellness of their children.

Yin (1994) explained that a case study is a comprehensive research strategy that deals with situations "in which there will be more variables of interest than data points" (p. 13). Yin (2003) stated that as an explanatory research approach, case studies contribute to the body of knowledge of an individual; a group; or an organizational, social, political, or related phenomenon. I followed this approach to identify commonalities that led to the success of the children whose parents guided them using

local community health and wellness resources. I studied a group of parents to explore the experiences that they claim contributed to their children's success in terms of improved health and improved school grades. These local community health and wellness resources were deemed successful in that the fundamental principles of the resources were in alignment with the national standards, which are proven to be successful in overall wellness and cognitive abilities (CDC, 2013a; OAHK, 2015).

Real-life events that occur in natural settings are the foundation of qualitative research (Miles & Huberman, 1994). Multiple meanings can be gathered from individual experiences, and from these experiences, patterns or theories emerge (Swanson & Holton, 2005). I gained an in-depth understanding of such experiences by investigating and identifying common patterns. The goal of this study was to understand the experiences of parents who used local community health and wellness resources in order to find commonalities that led to success. Swanson and Holton (2005) stated, "Qualitative data deals with meanings" (p. 234). The focus of qualitative research is to provide examples of how people handle everyday situations (Miles & Huberman, 1994). I obtained the data from the participants, identified commonalities that led to the success of their children, and presented findings on the success of using local community health and wellness resources.

Research Question and Subquestions

The study was guided by one overarching research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources and who reported improved health and

improved academics? Three subquestions are important in supporting the research question:

1. What successes were experienced?
2. What challenges were experienced?
3. What strategies were applied for kids to improve their health and academics?

Instrumentation

The instrument used for this research was a structured interview guide. Interviews are considered effective in qualitative research, and they exist in several forms. In a semistructured interview, the researcher wants some structure in the interview questions; yet, the scholar also allows for spontaneity and for the questions to lead into different questions that the researcher did not plan for (Brinkmann, 2014). In a structured interview, the researcher has questions that he or she wants to have answered (Brinkmann, 2014); for this purpose, the structured interview guide was selected.

Context of the Study

I conducted this case study to understand the experiences of parents in Montgomery County, Ohio, who reported that changing the wellness and lifestyle habits of their grade school children resulted in improvements in their children's health and improved grades. The parents chose to use local community health and wellness resources on their own. The resources serve a Southwestern region of Ohio, Montgomery County, and various SES populations. I analyzed the experiences of six parents to understand how they used the local community health and wellness resources to change

their children's lifestyle habits and how parents reported this led to improved health and improved school grades.

Ethical Protection of Participants

The researcher needs to foresee any ethical concerns that could happen throughout the study (Creswell, 2003). It is the duty of the researcher to make certain that the participants are protected from any adverse consequences that could result from participating in the study. The researcher must also protect the data that are collected. Below, I explain the steps that I took to minimize the risk of harm to participants during my study.

I advised participants that their participation was voluntary and they had the right to withdraw at any time. I provided information about the purpose of the study, so the participants realized the nature of the research and its impact on them. I reviewed the procedures of the study so that participants understood the process. I assured respondents that they had the right to ask questions at any time. I gave participants a copy of the research study results, and I described the benefits of the study to participants. I obtained an e-mail confirmation from the participants agreeing to the requirements as described. I protected the privacy of my participants by using the coding process to identify each participant. I have completed NIH training regarding the protection of human participants in research, and I expected that there would be minimal risk to the participants during the study.

Informed Consent

All respondents were provided an informed consent form, and their information remained confidential. I collected consent from respondents before data collection began. I shared general information explaining the process of the study, and I gave the participants an overview of what to expect. Participants were advised that they may withdraw from the study at any time during the process with no adverse impact and no questions asked.

Risks/Benefits

I did not foresee any great risk to the participants. Everyday general risks aside, I did not foresee any risk of violence or trauma to being a participant in the study (Robson, 2002). I reduced the risk of adverse effect by maintaining confidentiality and anonymity for participants. The benefit for respondents was that they participated in a study that may have a positive impact on community health and wellness.

Bias

Although the researcher's bias exists and is impossible to fully remove from the study, I remained fully aware of any biases and worked to minimize them during data analysis. As a researcher, I must exemplify a high degree of self-awareness of how my personal values and bias influence the study (Arbnor & Bjerke, 1997).

Privacy/Confidentiality

Privacy refers to the respondent's right to refuse the interview or to refuse to answer any question in the interview (Cooper & Schindler, 2006). According to Stanford University's Office of the Dean of Research (n.d.), privacy is the respect of the

individual's right to be free from unauthorized intrusion. The right to privacy is important to most individuals. Invading the privacy of individuals in any way is not an acceptable ethical practice in research (Bryman, 2004).

Confidentiality makes certain that the participant's identity is protected and will not be revealed (Stanford University, Office of the Dean of Research, n.d.). The participant's information should not be released without prior consent. I was held accountable for ensuring that the information released was consistent with the original request. Each of these components of ethical considerations was essential to the research study. Without these elements, respondents may not have answered questions fully or truthfully. The issues of privacy and confidentiality were addressed by ensuring that the researcher did not publish any identifiable information of the participants.

Security

All data collected were kept on my computer and a USB drive. Both are password protected. The USB drive and any corresponding notes are kept in a protected file cabinet in my home, access to which is limited to me. Data will be kept for 7 years, and then destroyed by shredding paper documents and smashing the USB drive.

Role of the Researcher

Stake (1995) explained that researcher roles could include those of teacher, participant observer, interviewer, reader, storyteller, advocate, artist, counselor, evaluator, and consultant. My roles in this case study were those of interviewer, data collector, analyzer, evaluator, interpreter, and reporter. I am a university professor who is not employed by any of the local community health and wellness resources.

Over the past 10 years, I have been involved in developing and implementing healthy fitness programs involving physical fitness and nutrition across the university campus, the local community, and the tri-state region. Only the participants served as the experts in this process (Merriam, 2009). In addition, I did not hold any supervisory role over any of the participants, nor did I have any employment affiliation with them. In order to control bias, I had no stake or affiliation with the local health resources the participants may have used.

Criteria for Participant Selection

I used purposeful sampling to select participants based upon their knowledge of the subject matter (Patton, 1990). This case study had a sample of six parents who guided their children through lifestyle changes from local community health and wellness resources and who reported improved health and improved academics. Parents were selected for the study because they are instrumental in enforcing the lifestyle changes for their children; they share residences and have active daily participation with the children, such as meal preparation, physical activities, and enforcing proper rest. The parents selected understood the expected outcomes of the local community health and wellness resources, and they can attest to the success of their children who used them. The parents I interviewed used these resources for a minimum of 6 months. This allowed for "information-rich cases that manifest the phenomenon intensely" (Swanson & Holton, 2005, p. 52).

Data Collection

I collected the data from telephone interviews, the summer 2016 school year. Cooper and Schindler (2006) stated that telephone interviews allow researchers to broaden the geographic area of the study. Telephone interviews were time- and cost-effective for me. Therefore, telephone interviewing was appropriate for this case study.

Saturation is the point in data collection when no new or pertinent information surfaces with respect to the newly constructed theory. When there are no gaps or unsolved phenomena, saturation has been reached and the resulting theory is more easily created (Saumure & Given, 2008). I believe that the information obtained from this sample size led to data saturation because these individuals represented the target population who experienced and/or worked with the successful program. Although there are no fixed rules for determining a sample size (Patton, 2002), the sample size in my study allowed me to identify consistent patterns in the data (Yin, 2003).

In order to obtain the six parent participants for the study, I posted the invitation letter on three community resource boards in Montgomery County. These resource boards were in high-traffic, public areas, and allowed for a research letter to be posted. In the invitation letter, I explained the purpose of the study so that all participants understood the study. In the invitation letter to the participants, I explained that their participation was completely voluntary, there was no monetary incentive to participate, and withdrawal from the study at any time was acceptable. Interested parents contacted me directly via e-mail of their desire to participate after reviewing the invitation letter. Individuals who agreed to join the study then received an informed consent form that

they read, and replied via e-mail with the words "I consent" before they participated in the interview process. I followed up with e-mails and phone calls to schedule the parent interviews. All interviews were recorded via telephone to my digital device and stored on my laptop computer. This assisted in assuring data accuracy.

Interview Process

The appointments to conduct the interviews were set based upon the participants' availability as well as employment and personal commitments. I conducted the 1-hour telephone interviews in a private, quiet setting without distractions. Participants were encouraged to do the same. I followed a structured interview guide and asked open-ended questions. The interview questions (see Appendix C) asked about implementing good nutrition, incorporating or increasing physical activity that led to lifestyle habits, and the improved academic grades witnessed after implementing these changes.

All interviews were audio taped via the telephone to ensure the accuracy of the data. Each participant received the interview questions via e-mail, the consent form, and a description of the interview process and time allotted for the interview no less than 1 week prior to the interview. I recorded each interview on a digital recording device connected to my telephone.

Upon completion of each interview, I uploaded the data into my computer and produced a written transcript of the interview using the 2013 version of the Dragon NaturallySpeaking Premium® speech recognition software. After the interviews, I set up the software to recognize my voice, and I recited verbatim the responses to each interview into the microphone on the software on my computer to produce written

transcripts. The Dragon program converted the spoken text into written text. A transcript was produced for each participant to review and amend if necessary in an effort to reduce errors. I sent the participants the transcripts, and they reviewed them checked to make sure it was transcribed correctly. I also provided them with my recording of their individual interview. Once the participants approved their transcripts, I analyzed them.

To maintain the privacy of the participants and the confidentiality of their responses, I coded each interview with a color instead of a name. I did not record any identifiable information during the interviews.

Data Analysis

According to Cooper and Schindler (2006), qualitative data analysis "forces the researcher to see the contextual framework of the phenomenon being measured" (p. 165). Cooper and Schindler defined data analysis as the "process of editing and reducing accumulated data to a manageable size, developing summaries, looking for patterns and applying statistical techniques" (p. 702). The researcher must comprehend the data obtained from the participants in order to draw conclusions and explain the results to a broad audience.

Interview Data

Once the interview data were collected, I organized them into topics according to types of dietary and health-related practices used and the opinions of parents on the effectiveness of the practices used. I selected each topic based upon the research question and subquestions so that I could recognize the particular topics and organize the answers. I analyzed the data continuously during the study, a process supported by Stake (1995).

Because the interviews were the main source of data, I followed the two phases outlined by Rubin and Rubin (2005): The first was to "prepare transcripts; find, refine, and elaborate concepts, themes, and events; and then code the interviews to be able to retrieve what the interviewees have said about the identified concepts, themes, and events" (Rubin & Rubin, 2005, p. 201). The second step was to "compare concepts and themes across the interviews . . . to formulate a description of the setting" (Rubin & Rubin, 2005, p. 201).

For the telephone interviews, I produced transcriptions of each audio recording and asked the participants to review, possibly amend, and then approve the transcriptions, which I analyzed to find common themes and patterns among the responses. I analyzed using the processes of data reduction, data display, and conclusion drawing or verification (Miles & Huberman, 1994). Miles and Huberman (1994) noted that data reduction takes place continuously during research. They explained data reduction as the "process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcriptions" (Miles & Huberman, 1994, p. 10). Data display can be graphs, charts, matrices, or networks. In conclusion drawing or verification, is it the researcher's responsibility to obtain and draw conclusions from data and that the data have been verified for accuracy. These three methods of analyzing the data were essential in completing this study.

Confirmation of the findings was important to the data analysis process. Swanson and Holton (2005) explained the importance of an audit trail in qualitative data analysis.

They explained that independent assessors are necessary to confirm the outcomes of the study by following this audit trail.

Validity and Reliability

Validity is necessary to the research design to validate the findings and to determine whether the objectives of the study have been met (Bryman, 2004). Trochim (2006) acknowledged four methods of validity that can be used for qualitative studies. The first method is establishment of credibility with the participants. Trustworthiness is key. If the participants are not confident in the researcher, they might not provide honest answers. The second method is inclusion only of Montgomery County parents, which addresses the issues of generalizability and transferability because the results obtained apply to Montgomery County parents only and are not necessarily transferable to other entities. The third method is that the study must be dependable, meaning that the researcher must show that the findings are accurate and the data are trustworthy. The fourth method requires checking and rechecking the answers and asking the participants to review the transcribed data.

The verification processes were transcript checks and member checking (Hatch, 2002).

Chapter Summary

In this chapter, I summarized the methodology that I will use to complete this case study. I provided information to validate the research design, sampling, interview process, and context. I reiterated the research question and subquestions, and I described

the data collection and analysis techniques to assure the validity and reliability of the study.

Chapter 4: Results

Purpose and Research Questions

In this study, I addressed childhood obesity levels of grade school children in Montgomery County, Ohio, and its negative effects on children's ability to learn. With Ohio now listed as the 16th most obese state in the nation (Trust for America's Health, 2014), it was necessary to explore experiences in this local and national epidemic; therefore, a qualitative approach was used to study this problem. The study was guided by one overarching research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources and who reported improved health and improved academics? Three subquestions are important in supporting the research question:

1. What successes were experienced?
2. What challenges were experienced?
3. What strategies were applied for kids to improve their health and academics?

In this chapter, I will review the research questions and the purpose of the study, setting, data collection, data analysis, results, trustworthy of evidence, and a summary that answers the research questions.

Setting

In the setting of the study, I did not experience any personal or organizational conditions that would have influenced my participants or their experiences during the time of the study. The participants were interviewed over the phone during a time that was convenient for them so as not to cause any distress or issues with their time. I was

the only researcher, so there were no issues regarding personnel changes or lack thereof. The participants were parents who volunteered for the study. The parents identified themselves as parents whose school-aged children in Montgomery County, Ohio, improved their academics while improving their health and wellness habits using local and community health and wellness resources.

Data Collection

The parent interview participants included four females and two males. The first participant was a single mother of a sixth grade girl who shared that her daughter was often tired and uninterested in learning and was told by her doctor that she was about 20–25 pounds overweight. The second parent participant was a divorced mother of a sixth grade girl who shared that her daughter was getting into disciplinary problems for falling asleep in class and who had poor grades in subjects that she once enjoyed, such as physical education and language arts. The student also quit sports. The mother shared that both parents were active in the student's life academically, socially, and emotionally. The third participant was a single father of a sixth grade boy who was falling asleep in class, lost interest in school, had poor school grades, and was deemed about 10–15 pounds overweight. The fourth participant was a single mother of a sixth grade girl who shared that her daughter was often tired and uninterested in learning, and was told by her doctor that she was about 20–25 pounds overweight. She was often reprimanded in class for falling asleep. The fifth participant was a married father of a sixth grade boy who shared that his son was told by his pediatrician that he was obese, was close to being held back in the fifth grade due to poor test performance, and was borderline diabetic. The sixth

participant was a single mother of twin sixth grade girls whose daughters skipped breakfast regularly, took nutrition for granted, and would nap in class due to low energy. They often missed notes in class, which ended in poor test performance.

Data collection began in the summer semester of 2016. I posted an invitation letter on three community resource boards in Montgomery County. These resource boards were in high-traffic, public areas, which allowed for a research letter to be posted. Seven days later, I sent the individuals who replied to me the informed consent that explained the process, the possible risks of taking part in the study, and an explanation that all of their responses and their identity would remain confidential.

The first six parents who agreed to participate and who gave consent via e-mail were interviewed. The interviews were conducted during the weekend hours because all of the parents worked and were not available until after 8:00 p.m.

Data Analysis

Many of the themes fit into several categories; however, by organizing the responses into several groupings, I was able to come to conclusions about the experiences of the parent participants. I also followed the flow chart (see figure) to guide the validity of the research (Creswell, 2014, p. 197).

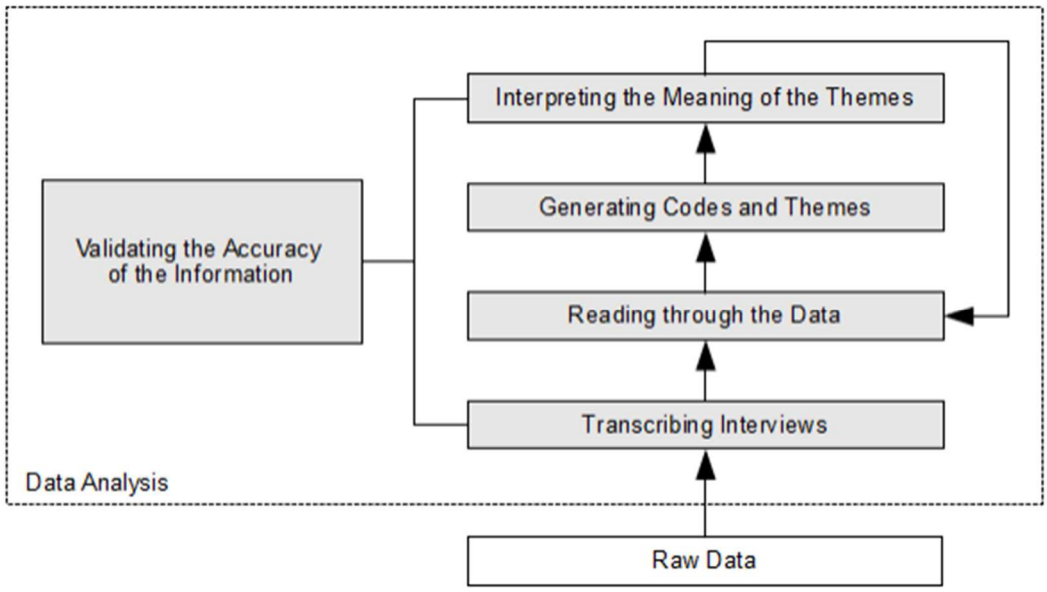

Figure 1. Data analysis flow chart.

Themes

To determine the themes that developed through the research, I read the transcripts from the interviews to find patterns of words and phrases that the participants said throughout the interviews. Multiple participants repeated certain words and phrases, even after the third interview. The themes that emerged from the research subquestions are shown in Tables 1–3.

Table 1

Success Themes That Emerged From the Analysis of the Interviews

Success theme	Data alignment to theme	Research question and subquestion
Support	Children were given the support they needed to be successful in attaining the overall wellness and academic goals.	Research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources, and reported improved health and improved academics?
Sleep & nutrition	Children learned the importance that sleep and effective nutrition have on their overall health, well-being, and performance.	Subquestion: What successes were experienced?

Table 2

Challenge Themes That Emerged From the Analysis of the Interviews

Challenge theme	Data alignment to theme	Research question and subquestion
Acceptance of obesity	The children had a difficult time accepting that they were overweight and needed to change.	Research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources, and reported improved health and improved academics?
Time management	Children had difficulty managing their time to include schoolwork, proper rest, extra physical activity, chores, daily responsibilities, and still have time with friends.	Subquestion: What challenges were experienced?

Table 3

Strategy Themes That Emerged From the Analysis of the Interviews

Strategy theme	Data alignment to theme	Research question and subquestion
Controlling temptations	Children learned to say no to anything that could hinder their progress.	Research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources, and reported improved health and improved academics?
Visualizing Progress	Children became excited to continue as they noticed weight loss, started feeling better, and improved as their school performance improved. Include meal prep, scheduling	Subquestion: What strategies were used?

Results

In order to develop the results, I conducted interviews, analyzed data from the interviews, triangulated data from the interview questions, and identified common patterns. While analyzing the data, I was able to develop findings for the overarching research question and subquestions.

The general overarching research question was the following: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources and who reported improved health and improved academics? This question was answered by the three subquestions shared

below regarding successes, challenges, and strategies experienced. The parent interview guide addressed the subquestions.

Subquestion 1, What Successes Were Experienced?

In response to Subquestion 1, all of the parent participants identified support as the most essential element to the success of their children and their goals. Parent 4 stated, "My daughter needed daily and constant support from me, her teachers and everyone who was around her during the day or she would not have been able to change her wellness habits." Parent 1 claimed, "My daughter needed support from everyone she encountered it seemed and since she was more than 20 pounds overweight, this really helped her to want to change." Parent 5 stated, "my kid was a borderline diabetic and he needed support from his family and friends especially after he almost got held back last year from poor test scores." Parent 2 stated, "She really cried in the beginning because she felt like none of her friends would support her, and we were all so happy when they did. It really helped her to stay the course and be successful." Parent 3 stated, "I hate to think of what would have happened if he didn't have the support he needed." Because the students were surrounded by outside influences that could deter their goals, it was important for the children to be surrounded by people who were going to remain supportive of their goals. Parent 6 stated,

> The twins had a crash course in friendship and they really learned who their true friends were by how much they supported them throughout these changes. Their friends supported them and would not eat the sugary treats that they had in their lunch in front of them. They either took the sweet treats back home, or would eat

> them before they got to the table so they did not tempt them or make them feel badly. It was so awesome to learn that.

Parent 1 stated, “The support she had from her teachers and the school staff was so important because during the school year she spends more time with them than she does at home.” Parent 3 stated,

> My boy told his math teacher what he was doing at home, and his math teacher would started bringing granola bars for the kids to snack on instead of the gum and candy that the kids bring. I thought that was am awesome show of support and the best thing was that the teacher didn’t tell the class why he brought it.

Parent 6 stated, “My twins’ art teacher would support the girls by privately asking them how their progress was going.” Parent 5 stated, “My son would come home so happy when his teacher complimented him on his physical progress and his progress in class. He really needed that.” Parent 2 stated, “The family made our time together a support group for her, so we all worked on our diets together.”

Another success reported was that of effective rest. Parent 6 stated,

> At one point my twins were getting as little as 3 to 4 hours of sleep, because they were text messaging, and playing on their phones almost all night. It was no wonder they weren’t doing well in school, they were exhausted.

Parent 3 stated,

> I was an athlete in school so I had to really explain to my son the value of rest to the body and the brain. My boy loves video games, but they were destroying his sleep, and he was useless in class because of it.

Parent 4 stated, “My daughter really gave me the blues about going to bed early and acted like I was punishing her until she woke up feeling refreshed and even ready to learn in school.” Parent 1 stated,

> My daughter really surprised me by how easily she cut the phone off and got the proper rest for the day. It got to a point now where even still, she really only deals with her cell phone a few times a day to return a few text messages. That is really why I got her the phone in the first place was to stay in touch with family, so I’m so relieved the phone doesn’t dominate her nights anymore and she is finally sleeping. She is so much easier to wake up in the morning and she even gets up on her own after a good night sleep. I’m just grateful.

Parent 2, stated,

> My daughter has been reprimanded for falling asleep in class so many times that I just lost count. Once she agreed to just go to sleep on time and stop playing around at night, her attitude toward school completely, and the sleeping in class just stopped, and thank God, she started doing better in school.

Nutrition was reported as a key success. Parents 1, 2, 4, and 6 reported that their children almost always skipped breakfast. Parent 6 stated,

> My girls never got the sleep they needed and then they would out of the house with no breakfast either, but when they got at least 7 or 8 hours of sleep and at least had some cereal and fruit before they left the house, they said they would have such a better day at school.

Parent 1 stated, “Once my daughter would at least eat a couple of breakfast bars, she felt so much better at school.” Parent 4 stated,

> After a couple of weeks, I noticed her snacking less on salty and sugary treats once she became regular with eating a hearty breakfast. She woke up early to make her breakfast and lunch to carry, and my daughter lost 18 pounds by making these simple changes that she followed from the county website. It was amazing watching such a young girl be so dedicated and successful.

Parent 3 stated, “Regardless, my kid was almost always running late for school, so he made portable breakfast meals the night before, and tossed in a plastic sandwich bag in the refrigerator. This way, he always had breakfast. It worked.”

Subquestion 2, What Challenges Were Experienced?

In response to Subquestion 2, the parents identified a number of challenges they and their children needed to work through in order to successfully complete their physical and academic goals, but the two that were dominant were the acceptance of obesity, and time management. All of the parents reported that the acceptance of obesity was very difficult for their children to handle. All of the parents reported that before starting any lifestyle changes, they took their children to their pediatricians for guidance, BMI readings, physicals, and counseling. Once the doctors shared with the parents and children that there was a weight problem, the parents worked with their children to understand how they became overweight, and begin the process of changing lifestyle habits for improvement.

Parent 5, explained,

> My son never would admit that he was overweight because he was a pretty good football player at such a young age and since he was considered an athlete, he thought that meant he could never have a weight problem. He eventually accepted what the doctors told him and it was pretty devastating for him at first.

Parent 1,

> At this age for a young girl, fat is one of the worst things to be called. It is one thing when kids tease about weight, but having to accept it and change daily habits depressed her for a while.

Parent 6, "Our diagnosis of obesity came from the doctor so my girls couldn't argue it down. No little girl wants to be called fat, but they learned that fixing their weight was solely up to them." This was a challenge that all of the parents said they were sad to experience, but also allowed for them to support their child to make the changes needed.

Parent 3, "my son refused to get on the scale initially because he just didn't want to see the numbers. It was like making these changes was admitting that he weighed too much. Eventually he got on the scale though."

Parent 4, shared,

> My daughter at one time was bullied a bit for being bigger than some of the other girls, so when I talked to her about making these changes in her eating and exercise habits, she really hit the roof. She felt like the bullies were right and she was fat and it was a mess at first actually.

Parent 2,

> My daughter actually listened closely to what her pediatrician had to say. She listened more to her than me of course, and even though she was sad about being overweight, she was ready to change. I felt really bad because I felt like I really crushed her feelings, but she did really well.

Time management was the other dominant challenge theme that surfaced in the analysis. The parents shared that their children were now faced with responsibilities to their own health, so extra game time and social time with friends was not eliminated, it was simply reduced, and all of the parents reported this as a struggle in the beginning. Parent 1, shared,

> She cried for days about not being able to hang out with her friends because she had to finish her homework, exercise, and make her lunch for the next day. I don't know why she cried so much because there was more than enough time for her to complete all this.

Parent 2, explained,

> She knew she had to work out for at least 30 minutes a night and still fulfill her other responsibilities. It was a fight at first, but we used dance videos and made it into family time, and it worked out and she had plenty of social time for her friends.

Parent 6, stated,

> My girls had a hard time adjusting to regularly scheduled activities once they got home from school. They already needed the extra physical activity, and they needed to schedule time for homework, chores, exercise, and about 7-8 hours of

rest. They got pretty frustrated that the text and video game time was really reduced, but after a while they did get used to it and started feeling better and even seeing results.

Time management even assisted the parents in getting their children the extra physical activity they needed.

Parent 1,

I swear getting my kid to get up and exercise was such a battle, but it made such a difference in her life, not only with school, but life in general. The school grades just started getting better and better, and I know this was only due to planning out what needed to be eaten, when to add exercise, and when to go to sleep. People think losing weight is rocket science, but it really is just common sense and dedication.

Parent 4, shared,

For her, managing her time and planning was critical. It had to happen. If she didn't have the food she needed with her, then she'd just end up eating the junk food that was surrounding her which made her tired and sick many times. Obviously that wasn't helping, and we live close enough to the school that many times when the weather was good, she'd walk back and forth to school and that served as her exercise.

Subquestion 3, What Strategies Were Applied for Kids to Improve Their Health and Academics?

In response to Subquestion 3 controlling temptations and visualizing success were the two key strategies used that parents reported. The parents worked with their children so they could create their goals, stick with a plan and reap the benefits.

Parent 5,

> One of the first things we had to conquer and use as a tool was controlling temptation because there are sights and smells all around my kid that would have really taken him off course. It seems like on every corner there is a place selling French fries and you just can't avoid it, so we had to develop a pact to just ignore it and tell yourself that you just don't need or want it. With school it was the same strategy. If he knew he had a test and he wanted to play ball with his friends, he had to learn to discipline himself to study and get some sleep. That helped him out a lot in school.

Parent 6,

> Not wanting to eat the foods that looked and smelled good was so hard especially with a set of twins. So what they did to kill the longing for junk food was to use each other to stay on track especially since they were together all day. If one wanted something they shouldn't eat, the other would intervene. So, they avoided temptation by using the old buddy system. They did that for each other in school too. Since they were seeing success with the weight loss, they helped each other in school too and it really worked.

Parent 1,

The strategy my daughter created was to see the goal and go for it. We knew temptation was going to be an issue, it is for everyone and as a child it's tough, but if we have a plan in front of us we just have to say no to things that will stop us reaching the goal. In terms of her schoolwork, we saw that when she felt better, she just did better. She was doing poorly in school before because she felt poorly in general.

Parent 2,

We made food time a family affair. So everyone took part in planning out the meals and this way she didn't feel singled out or embarrassed or tempted to eat something she shouldn't because we were all eating the same thing with her and she helped choose the food. Her school strategy she created all on her own. She was so excited to start getting better grades and praise from her teachers and that was all she needed to keep pushing forward. I was very excited for her and knew we made the right choices.

Parent 4,

I know how it is as an adult to not give in to the wrong things, so for a kid we really had to dig deep to find a good method or strategy that would work for her and the best one we found was simply saying no. It's way easier said than done so she really had to stick to her guns on that.

Parent 3,

He just had to learn to say no to the stuff he didn't need and yes to the stuff he did need. It is a very basic strategy, and I know it is tough for anyone to do, but he

learned to say no and he's really grateful and happy that he did. He's even helping other kids at his school to do what he did. It's pretty awesome.

Visualizing progress was the other key strategy that surfaced in improving their children's health and academic performance.

Parent 4,

My daughter is a very visual person, so we took before, during, and after pictures so she could always look back to see how far she had come in the process. It also really motivated her to continue and remain focused. We also had a weekly check-in meeting for her to tell me what she thought was going well and what wasn't. She looked forward to that and was very vocal, but it served as a tool for her to push herself.

Parent 3,

Watching his own success was probably the best strategy we used. Once we saw his grades improving slightly, I kept his tests and assignments and showed him how his health is helping him in school. It was really an awesome experience for him watching his math and English grades go up like they did.

Parent 2,

The strategy I think that worked best for her was nailing a pair of jean shorts on the wall and every two weeks or so, she'd try them on to see how loose they got. That really allowed her to see how successful she was with making the changes. She refuses to throw them away. She became excited about going to school and

started getting better grades especially in English because she started writing about this journey for her.

Parent 1,

My daughter and I started noticing that her homework and quizzes were getting better and she started really have the energy to put forth good work. I knew the talent was there in her, but when she was just lying around on her phone and not really taking part in school or life for that matter, her grades and her health were really suffering. So for me the best strategy for her health and schooling was watching her own improvement.

Parents used local community resources to learn about the ways to create healthy lifestyle changes that also led to school improvement for their children. Parent 6, "When I realized the resources to make such major changes had been right in my face all along, I got right on it, not only to help my twins, but my entire family."

Evidence of Trustworthiness

During the process of data collection and analysis, I assured accuracy through the following. Initially, I conducted transcript checking by asking the parent participants, to review their transcripts of the interviews to confirm their accuracy. I e-mailed parent participants the transcripts of their interviews, and requested that they respond via e-mail if the transcript was precise or if it required revisions. If the participant found a discrepancy in the transcript, I requested that they include that discrepancy in the e-mail response. All six transcript checkers responded that their transcripts were precise.

Assuring quality is vital as the responses from the participants validated the transcripts and this gives strength to the accuracy of data.

Secondly, I requested that these same parent participants conduct a member check. I asked them to read and review Chapter 4 of my research study to confirm that the analysis, findings, and conclusions were discussed to their satisfaction and that the procedure discussed was actually what they encountered. As with the transcript checks, I conducted this via e-mail, and requested that the respondents give me a positive or negative confirmation. If the procedure could not be validated based on their own experiences, I requested that they respond with that discrepancy as well. The six respondents confirmed the procedure and clarity of the findings. I chose to utilize member checking because it enhances credibility and accuracy (Hatch, 2002), and it also allows for the participation results to be available the participants.

Chapter Summary

The findings in this study showed that healthy kids are smarter kids. Adopting effective nutrition and sleep habits, and increasing physical activity, produced children who are not only healthier, but generated better grades in school. The primary techniques included establishing clear expectations and following through with those expectations; showing the children their critical role in improving their health and grades; empowering the children through planning meals, activities, and study times; leading the children by example in the home; and educating the children on possible negative outcomes. The data also showed parents felt that empowering the children to take responsibility for their health is essential. Finally, the data showed an increase in confidence, attention span, and

desire for success with the children who were successful with changing their wellness lifestyle habits using local community health and wellness resources.

Chapter 5: Discussion, Conclusions, and Recommendations

Interpretation of the Findings

In this case study, I investigated the success of parents who used local community health and wellness resources to improve the health and academic grades of their children. I addressed the childhood obesity levels of grade school children in Montgomery County Ohio. Childhood obesity numbers have more than tripled in the past 30 years (National Center for Health Statistics, 2012), and the effects are negatively impacting children's ability to learn.

I collected the data from phone interviews with parents. Participants for the interviews agreed to speak with me via phone at scheduled times. All interviews were confidential.

The study was guided by one overarching research question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources and who reported improved health and improved academics? Three subquestions were important in supporting the research question:

1. What successes were experienced?
2. What challenges were experienced?
3. What strategies were applied for kids to improve their health and academics?

These questions created the foundation for the development of the data collections tools.

For data analysis, I used NVivo8, a qualitative analysis software program, in the topical analysis format. This software allowed me to separate the data into distinctive

topics. From there, I was able to recognize and categorize the common themes that become apparent from the data.

Summary of the Findings

According to study findings, effective nutrition, along with regular physical activity, improves children's overall health, which leads to better/improved school grades. Chapter 4 includes an in-depth explanation of the conclusions drawn that relate to each research question. I found that students who are diagnosed as overweight or obese by medical professionals can improve their health, weight, and academics by following guidelines shared in local community health and wellness resources. Parents reported that their children changed their lifestyle habits, which improved their health and confidence, which allowed them to perform better in school. Their children were more alert, woke up easier, were not running late for school in the morning, enjoyed learning, and were eager to learn after getting 7 to 9 hours of sleep each night. Their self-esteem improved after realizing that their clothes no longer fit and they had to buy they next size smaller. By eating healthful foods and eliminating/or reducing foods high in saturated fats and high sugary sweets, the children had energy that sustained them for the entire school day, they were not sleepy in school, they had energy and enjoyed extra physical activity during and after school, and their cognitive abilities and test scores improved from one semester to the next. Parents shared that the teachers noticed the changes in their children and congratulated the children and the families on their success, and some teachers mentioned that they plan to implement these changes in their households as well. The foods they ate, the activities they took part in, and the rest they allowed their bodies positively affected

performance while using local community health and wellness resources that are directly aligned with the national standards for health and wellness.

Connection to the Research

These parents followed health and wellness guidelines listed on local and community health and wellness resources that align with national standards of health and wellness. Florin et al. (2011) asserted that following these health and wellness guidelines kept their children from being at risk for depression and diseases, which will allow for their academic and social success. These dietary changes will allow for the improvements in body composition leading to weight loss and better health (Heyes, 2012).

These family actions align with the TTM processes of changes as developed by Prochaska and colleagues in 1977 (Glanz et al., 2008). Parents reported that their children during this time frame initially had no intention of taking action to change their physical or dietary habits. This was the precontemplation stage. In the contemplation stage, the children then became aware of the benefits of making healthy lifestyle changes and planned to do so within 6 months. The children moved to the preparation stage by their parents adopting lifestyle changes using local community health and wellness resources. While in the action phase, the children had fully committed to the lifestyle changes they adopted and were seeing improvements in their weight, energy levels, attitudes, and classroom performances. Action is the stage in TTM that most people on the outside recognize first (Prochaska & Velicer, 1997). Action is aligned with behavioral change, as changes do not occur without some type of action that has been taken. The children made the decision to do something about their poor state of health and wellness. Action was

taken and positive results happened. From this stage, the children entered the maintenance stage and they completed the necessary changes and were living their new lifestyle. Although they have shown success, they are also working to avoid a relapse (Glanz et al., 2008). Finally, the parents reported that the children advanced into the stage of termination in which they have no desires to return to their prior unhealthy and sedentary habits and are able to resist temptations that could be brought on by society, depression, or any other stressors that life may present (Prochaska & Velicer, 1997).

The parents had to alter the dietary habits and impose some restrictions on their children in order to promote the weight loss that can lead to improved health and academic performance (Corcoran, Elbel, & Schwartz, 2016). Breakfast is also considered the most important meal of the day as it kickstarts the body's metabolism and allows for the process of fat and calorie burning to begin after fasting for several hours (*Health Problems and Childhood Obesity*, 2013). The parents reported that their children eating breakfast was crucial for their weight loss and weight management for that reason. Also, because their children's late night snacking was reduced, weight loss and weight loss management became obtainable (Basch, 2011).

The parents shared that not all students were initially receptive to making these healthy lifestyle changes. The young people had developed long-term habits that were difficult for some of them to break. The parents shared that they struggled at times to get their children to eat the proper foods, get the adequate rest they needed, and to take part in more physical activity than what they were used to. For a couple of parents, this was a stop and start process in which their children initially lost interest in changing their

healthy lifestyle habits because it was difficult for them and, at times, they felt singled out and embarrassed because their peers were not engaged in these changes as they were. Parent 2 shared that although they experienced success with using their local community health and wellness resources, "there were moments in the beginning that were extremely frustrating and at times frightening for my kid and the entire family." This initial apprehension and gradual submission to change align with the HBM (Rosenstock et al., 1988), which proposes that the belief in an individual threat, such as obesity and the health threats that accompany obesity, along with the belief in the effectiveness of the proposed behavior, in this case changing lifestyle habits, will predict the probability of a changed behavior. Once the child understood what was at stake, the behavior changed (Ogden, 2007). Shi et al. (2013) demonstrated that students who eat healthy, exercise daily, and rest regularly perform better on school tests and assignments. Their results align with the experiences the parents and their children experienced. Because environmental factors potentially lead to childhood obesity, and could have hindered the progress of their children, it was essential for these children to have the support that was mentioned at home and in school (Wittberg et al., 2010). This included planning meals, incorporating physical fitness, preparing and packing meals and healthy snacks, and discussing how they will continue with their new lifestyle habits and fitness routines even into adulthood (Wittberg et al., 2010).

Limitations of the Study

I obtained information from a small sample, which limited my ability to make generalizations because sampling was restricted to parents living in Montgomery County.

The findings were limited to the analysis of the data collected. Other limitations included my experience as a researcher, training and time limitations, the participants' understanding depending upon my communication skills, and the possibility that my instructions might be misunderstood or questions misconstrued if the participants did not fully understand the questions. This data were self-reported. The parents reported that their children were successful using local community health and wellness resources by losing 10–30 pounds or lowering their BMI by at least 5%, which improved their health and improved their academics by improving their math or English scores by at least one letter grade after completing the changes.

Recommendations for Action

Children who are eating healthy and partaking in regular physical activity could perform better in school. My recommendation is that families, schools, and communities continue sharing and using local and community health and wellness resources and for these resources increase their offerings. One way this could be done is for local and community health and wellness resources program to remain updated and keep the community aware of any changes in our national health and wellness standards. Another way of improving offerings is for local and community health and wellness resources programmers to also stay aware of and share new fitness trends and how these new activities can be beneficial.

Healthy lifestyle habits and its effects on academic performance is a topic of interest in the education field as educators are searching for solutions to improve student performance (Corcoran et al., 2016). I attended a health and wellness conference where

three workshops were dedicated to childhood obesity and how it impacts education. All three workshops had full attendance, which demonstrates that there is a desire to obtain solutions to this issue. All three of the workshops stressed the importance of healthy eating and physical activity. From there, strategies on how to change how children view food, making healthy food exciting, body image through food, and ways of incorporating creative physical activity were shared. Because most of the attendees were also parents, there were many who chose to share personal experiences on what worked and what did not. I believe professional development, such as the conference I attended, would be beneficial for parents, educators, and community health professionals.

The results of this study will be shared with the constituents of the local and community health and wellness resources, parent participants, and those whom they choose to share with. Those involved in the local and community health and wellness resources should pay attention to the results. There is time involved in obtaining health and academic improvement after making healthy lifestyle changes. All people are different. Some results may seem slow and take months to a year to be evidenced, and others may take just a few weeks. There is no easy way through changing lifestyle habits to reach successful outcomes. This remains a learning and growing process. Those ready to make this change should have patience with themselves and remember that the condition they are in did not happen quickly, so they must allow themselves the time necessary to complete the changes and reap the benefits. I will offer the results to the local and community health and wellness resources by sending a letter with a brief summary of my findings through the mail to the program staff and parent participants.

Those with any questions of my findings are encouraged to contact me via e-mail included in the findings.

Recommendations for Further Study

Childhood obesity and its relation to learning will remain on the forefront of school and community agendas. Childhood obesity rates are not yet declining, and the concern for the well-being of our young population continues to grow. I am interested in this subject and plan to continue deeper with researching this subject in the future. Based on the findings of this study, I believe a logical follow-up study would be to explore deeper into the cultural and ethnic origins of overweight and obese children and how it plays into their dietary and fitness habits. I am interested in how African American traditions can be honored and adjusted in order for children to continue to be healthy and successful in the classrooms. I believe a mixed-methods case study might be appropriate so that both quantitative and qualitative data can show results of when, how, and how often the certain practices are used.

In addition, for further study, I think examining the issue of obesity and academic performance against SES and racial backgrounds, such as African Americans and Mexican Americans, would be valuable. This research would be necessary to prove the disparity of resources available to certain ethnic groups and how their children might be suffering physically and academically. Student achievement is essential to families of all nationalities or ethnic origins, so if a study on the effects of student achievement based on resources available to an ethnic group were conducted, then there would be data to show whether or not certain populations have access to healthy foods. I believe this study

would be effective with a mixed-methods approach. The quantitative data would supply numeric evidence of the issue and the qualitative data would supply in-depth personal data of this socioeconomic and ethnic disparity.

Implications for Social Change

Health and wellness and its positive impact on academics affect social change in a couple of ways. First, consuming nutrient rich foods and being physically active allows for students to be healthy and more academically successful, which promotes a productive and positive school and classroom culture (Gunter & Daly, 2013). This is inclusive of alertness, participation, and general attitude (Gunter & Daly, 2013). Second, a change in positive school and classroom culture can also foster positive self-esteem, and general productivity (Gunter & Daly, 2013). Parents who utilized local and community health and wellness resources are witness to this. In the data, parents discussed their children's shift in attitude toward learning, productivity, motivation, and new desire to achieve and attributed that to the positive shift in school culture. One parent stated that she noticed a tremendous difference in her son's excitement about waking up and getting ready for school. There was a time when getting her son ready for school was a daunting daily experience. Once he began eating better, losing weight, and performing better in school, she said he took pride in his appearance, his work, and his progress. She also spoke of the relationships he was able to build with his teachers and peers, which also fostered that shift in school and classroom culture. She also shared that her son simply felt better about himself and wanted to share that positive feeling with other

students. Based on the data collected from parents in Montgomery County, social change is taking place.

Reflection of Experience

As a researcher, I did not find it challenging for me to put my opinions aside and focus without bias at the results of the data. While the research process was exasperating, I also found it to be fascinating, and I complete this work with a great deal of pride and an enormous sense of accomplishment for my execution. The part that I found exasperating was time. I understood that I was on limited time to complete this research, and while I believed I had the time to successfully complete my research, there was always a ticking in my head that was a constant frightening reminder that time is of the essence and I did not have much left. I found data collection enjoyable, fascinating and humbling, as the participants expressed gratitude that I desired to research a lifestyle that they wholeheartedly believed in. I already had my assumptions about good eating and physical activity leading to kids being healthy and academically successful. That sounded rational to me, and as a result, I had very few issues finding literature on this topic. At this point since the body of literature is still emerging in this area, there are very few researchers who can be referred to as specialists in this field. During the processes of data collection and analysis, I started to realize that the assumptions I had regarding wellness and academics were accurate, and I found that to be encouraging. The questions that I constructed for the parent interview guide did allow for my assumptions to be incorrect, however, the data shows most of my assumptions to be accurate.

The sense of accomplishment that I feel is difficult to put into words. I have been in this program for a total of eight years, which is beyond the maximum amount of time students have for completion. During this time I struggled with health, death, and caretaking of family members. As a wellness consultant in my community, I have watched many fad diets and weight management programs come and go. It was refreshing to see local and community resources that were aligned with the national standards of health and fitness, and witness community groups and families who realized it was time to take responsibility for their own health and wellness. A major change I witnessed was our local and community health and wellness resources extending into surrounding counties and making an impact. My own university has adopted this same approach to use for adult students and faculty in hopes for improved health, academic and professional success. As a result of this experience, I have been appointed to serve as a Corporate Wellness Consultant for the university I work for. We will incorporate the local and community health and wellness resources into our employee wellness challenges. I have also incorporated these local and community health and wellness resources into a weight management program for a public service organization to which I belong.

I have grown tremendously as an administrator and a teacher through this study. I was able to effectively prove through research what I had already believed to be true and I can now share this information knowing that it is truly supported by current literature. As a researcher, I now understand the significance of solid data, and research based ideas. Research gives strength to any argument. With this research, I feel empowered to have

this knowledge and believe that I now have a responsibility to my family, community and myself to share this information with as many possible. Obesity is a disease which runs in my family as well and I will work to establish health and wellness guidelines with them as well as maintaining my own. Never have I had issues with my colleagues not respecting me as an educator, but there is now a new level of respect that I notice was not present before. I am addressed differently, and am constantly asked for advice regarding health and wellness related issues. Students also visit my office with similar requests for advice. While I was conducting my research I had no choice but to practice time management and with that skill, I am pleased with the results that my tedious and sometimes grueling work has produced. I am looking forward to sharing the proven strategies that work, and am excited to witness a generation of young people and parents who will take the extra time and effort to establish healthy foundations early so that they may be healthy, smart, and successful in all aspects of life.

Conclusion

Childhood obesity is an issue that remains at the forefront of concern with not only Montgomery County, Ohio, but also the nation. Based on the review of the literature, obesity prevention through physical activity and proper diet and nutrition is the remedy. Based on the qualitative findings of this case study, parents view effective nutrition and regular physical activity as effective methods of obesity prevention and school success. The experiences that the parents incorporated into the success of their children include establishing clear expectations and following through with those expectations; showing the children their critical role in improving their health and grades;

empowering the children through planning meals, activities, and study times; leading the children by example in the home; and educating the children on possible negative outcomes. Some obstacles to obesity prevention strategies include fear of failure, and the finances to afford the better foods on the market. It is recommended that the parents who took part in local and community health and wellness resources continue to share their experiences in order to educate and motivate other parents and surrounding counties who still struggle with obese children who need to improve their health and academics.

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Appendix A. Recruitment Letter

Dear Prospective Participant:

My name is Yvette G. Williams, and I am a graduate student at Walden University, pursuing an Ed.D. in Administrative Leadership for Teaching and Learning. I am completing a case study on healthy lifestyle changes and its impact on academic improvement.

The purpose of this research study is to understand the experiences of parents who guided their children using local community health and wellness resources, which helped their children achieve a healthier lifestyle, and become more academically successful by making suggested lifestyle changes suggested by these local community health and wellness resources. Other families and communities can learn a great deal from the experiences of people like you. I hope you will agree to participate.

I am asking that you allow me to interview you by telephone to collect information about your perspectives and success strategies. I will ask you 20 questions, and I expect the interview will take an hour to 90 minutes. Once the interview is transcribed, I will send you a transcript for your approval. This will also allow for any changes you choose to make.

I hope that you will consider being a part of my study. If you agree to participate, please respond to me via my personal e-mail. I request that you respond within ten (10) days of viewing this posting.

If you have any questions or concerns about this study, please contact me at (937) 369-3482, or my research supervisor, Dr. Edward Kim, at (303) 282-7448. If your have questions about your rights as participant please contact the Office of Research Ethics and Compliance at irb@waldenu.edu.

Thank you for considering this request.

Sincerely,

Yvette G. Williams

Appendix B. Parent Interview Guide

Overarching Qualitative Study Research Question: What are the experiences of the parents who guided their children through lifestyle changes using local community health and wellness resources, and reported improved health and improved academics?

Part 1–Successes

1. What were the academic improvements you noticed with your child after implementing the program's lifestyle changes?
2. When did you notice these academic improvements after the healthy lifestyle changes were implemented for your child?
3. What were the health improvements you noticed once the healthy lifestyle changes were implemented for your child?
4. When did you notice these health improvements after the healthy lifestyle changes were implemented for your child?
5. When did you understand the relationship between healthy lifestyle changes and improved health and academic grades for your child?

Part 2–Challenges

6. What challenges did you experience changing the lifestyle habits of your child that led to improved health?
7. What challenges did you experience changing the lifestyle habits of your child that led to improved academics?
8. How were you able to overcome the challenges you faced while changing your child's lifestyle habits leading to improved health?

9. Who else was involved in the guiding of your child with these healthy lifestyle changes leading to improved health and academic grades?

   What were some obstacles to additional involvement?

Part 3–Strategies

10. As a parent, what techniques did you use to guide your child with healthy lifestyle changes that led to improved health?
11. As a parent, what techniques did you use to guide your child with healthy lifestyle changes that led to improved academic grades?
12. Can you give any specific instances where you feel that your guiding techniques were effective?
13. Can you give any specific instances where you feel that your guiding techniques were not effective?
14. What if any, strategies do you currently use to continue the health and academic success of your child?
15. What led you to use your local community health and wellness resources?
16. Why did you choose your local community health and wellness resources to assist your child as opposed to other resources or a specific program?
17. How do you feel have these healthy lifestyle changes have affected your child's future?
18. What might you suggest to other parents to instill healthy lifestyle choices in their children that could lead to better health and academic improvement?
19. Do you feel your child is grateful for this intervention?