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Childhood Obesity and Absenteeism: Implications for School Leaders

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CHAPTER 1

INTRODUCTION

Obesity is a major public health crisis (Karnik and Kanekar, 2012). A study of elementary schools in Philadelphia found that obese children are absent 21 percent more than children of normal weight (Pan, Sherry, Park, Blanck, 2012). Researchers Geier, Foster, Womble, McLaughlin, Borradaile, Nachmani, Sherman, Kumanyika, Shults (2007) summarized that in addition to the medical and psychosocial consequences of being overweight, heavier children have greater risk for school absenteeism than normal-weight peers. As the rate of childhood obesity increases, parallel increases in school absenteeism are expected (Geier, 2007).

Several possible reasons may explain why obese children attend school less frequently. Studies found that obese children are more likely to experience social difficulties and behavior problems compared with normal-weight peers (Geier, 2007). Obese children may fear embarrassment by peers. Overweight children are at a greater risk for absenteeism than normal weight peers, and this may reflect an effort to avoid being teased, a wish to avoid physical education classes, or greater propensity to illness (Krukowski, West, Perez, Bursac, Phillips, Raczynski, 2009). Weight-teasing has received attention because research suggests it can cause a number of outcomes such as disordered eating, low self-esteem, anxiety, depression, suicidal ideation, and suicide attempts – all of which may lead to school absenteeism (Krukowski, 2009). Another potential reason for greater absenteeism among obese children is the increased number of medical conditions such as type 2 diabetes, asthma, obstructive sleep apnea, nonalcoholic fatty liver disease, cancer, and lower levels of the quality of life of these children (Taras, Potts-Datema, 2005).

Background of the Problem

Childhood obesity prevalence among preschool children between age group 2-5-year-old girls and boys increased from five to ten percent between 2007-2008 and increased from 6.5 to 19.6 percent among age group of 6-11-year olds (Karnik and Kanekar, 2012). As obesity rates in children rise, the quality of life in children decreases as severely overweight children and adolescents report health related quality of life comparable to children diagnosed with cancer (Geier, 2007). Children become vulnerable to the effects of childhood obesity as well. Obese children show decreased levels of self-esteem, and lower self-esteem is associated with sadness, loneliness, and nervousness – all of which consequences may lead to psychological diseases and potentially compromise school attendance (Pan, 2009).

Among two to 19-year-olds in U.S. children, the severe obesity prevalence has increased by as much as 300 percent from .8 percent from 1976-1980 to 3.8 percent from 1999-2004 (Flores, Lin, 2013). This rise in childhood obesity may be a major cause of children missing school on a consistent basis. The poor quality of life outcome of childhood obesity may turn into missed school days, and as a result may cause academics to suffer (Daniels, 2008). The obese youth referred to medical practitioners evaluated for obesity missed an average of 4.2 days of school per month where the average for non-obese students was one day a month (Daniels, 2008.)

Despite potential impacts as an important mediating influence, self-esteem has received little attention in studies of health and academic achievement among adolescents (Kristjansson, Sigfusdottir, Allegrante, (2016). Childhood obesity may cause negative psychological and social consequences, such as depression, lower self-esteem, social isolation, and stigmatization. These comorbidities and consequences may affect other aspects of children's lives, such as increasing

school absenteeism (Pan, 2012). Not only is absenteeism an issue, but performance in school even when attendance is up to par may be in jeopardy. Datar and Sturm (2006) explain that being overweight may lower self-esteem and body image and make it harder for children to concentrate or be attentive while in class. In addition, problems associated with being overweight may increase sick days, leading to missed classes or being habitually late, which may affect school performance (Datar, 2006).

As this prevalence of childhood obesity continues to rise, previous studies in overweight or obese children from grades K-12 demonstrated an association between the number of absences and academic performance (Geier, 2007). Geier (2007) explains that a sub-analysis from a study on health-related quality of life found that severely obese children and adolescents missed more school days than normal-weight peers did. Raychowdhury, Tedders, Lyn, De Fede, and Zhang (2012) inform of similar results of a study in that school absenteeism is more of a problem in school children than adolescents, and the odds of missing school two days or more per month were doubled and quadrupled among overweight and obese children compared to school children with normal weight.

Motor-skills in children may be another reason that children do not do well in school, as studies indicate that the prevalence of impairment in gross motor skills was higher among obese male children than normal-weight male children (Mond, Stich, Kraemer, Baune, 2007). Wang and Veugelers (2008) explain that not only is bodyweight a contributing factor to obesity and negative effects on school performance, but the lifestyle factors that go with it such as less physical activity, more sedentary lifestyle, and poor diets may also significantly contribute to obesity in children. In past decades, poor diet, characterized by the intakes of a lot of unhealthy fats and lots of refined sugars with a combination of very few fruits and vegetables has been

identified as one of the primary mechanisms underlying the rising prevalence of overweight and obesity in school-age children (Florence, Asbridge, Veugelers, 2008).

Problem Statement

Childhood overweight and obesity is a major public health issue (Leatherdale, Wong, 2008). Little is known about childhood obesity and its effects on absenteeism and school performance.

Purpose of the Study

The purpose of this study was to explore how obesity impacts school performance and absenteeism. This study specifically looks at what contributes to obesity in schools and interventions that should be warranted by administrators.

Theoretical Framework

The theoretical framework chosen for this study included theories of obesity explaining why people become obese and stay obese, especially in children. These theories include the hormonal theory of obesity, the behavioral susceptibility theory of obesity, and the set-point theory.

Hormonal Theory of Obesity

Fung (2016) argues childhood obesity occurs because of hormone imbalances, not because of too many calories in and too few calories out (p. 72). Researchers Kaaks, Lukanova, and Kurzer (2002) argue that excess weight gain and obesity is associated with insulin resistance, a state of reduced responsiveness to body tissues, especially in the liver and adipose tissue. Insulin resistance is most strongly associated with a build-up of body fat tissue around the abdomen (Kaaks, 2002). Drinking 100 percent fruit juice more than four times daily, drinking sugary beverages at least once daily, and eating fast food at kindergarten age more than three

times weekly were associated with a higher severe obesity prevalence (Flores, 2013). These sugary drinks quickly cause insulin to be produced, and Fung (2016) asserts numerous studies, conducted mostly on diabetic patients have already demonstrated the fact that insulin causes weight gain. By looking at hormones, strong arguments developed explain that imbalances in hormone levels may be the reason that obesity is a major public health crisis.

Fung (2016) asserts that insulin, a very powerful weight gain hormone, is the primary cause of all obesity – whether it is childhood, adolescent or adulthood, the primary cause of obesity is the hormone insulin. Fung (2016) explained:

> The logical consequence of too much insulin in the newborn is the development of insulin resistance, which leads to even higher levels of insulin in a classic vicious cycle. The high insulin levels produce obesity in the newborn as well as the six-month-old infant. The origins of both infant obesity and adult obesity are the same: insulin (p. 148).

Behavioral Susceptibility Theory of Obesity (BST)

Carnell and Wardle (2008) assert that obesity is a result of appetitive characteristics of people. Compared to slim-people, obese people's appetite is less effective in returning to normal after eating. Variations in people's appetite form soon after birth (Llewellyn, Wardle, 2015). Llewellyn and Wardle (2015) posited that people who have weaker internal signaling from the gut once eating starts are more likely to overeat because those signals are not telling the body to stop. Lustig (2013) supports the BST by explaining that leptin signals the hypothalamus that enough is energy stored up (p. 39). When the brain cannot get the message from leptin that the body has enough energy, it calls for more food (Lustig, 40). When leptin cannot do its job, people still feel hungry and continue to eat even though a sufficient amount of food was consumed. BST provides

good insight into reasons why obesity is increased because of the body's inability to feel full, in that it has gotten enough food.

Set-Point Theory of Obesity

Farias argues that the body has an internal control mechanism that is a set point located in the hypothalamus in the brain, which regulates metabolism to maintain weight at a normal level (Farias, Cuevas, Rodriguez, 2011). The body uses "set-point" to protect itself from too much weight loss during times of excessive caloric restriction. This accounts for the survival of people all throughout history that went through famines and droughts and were not able to eat for long periods. Without this ability, the human race would have died off long ago. Marks (2015) makes this argument as he explains homeorhesis is the tendency of living things organisms to evolve along a trajectory while external conditions continually force the organism to adapt. This helps the organism maintain equilibrium among its internal components while interacting with the external environment – something called homeostasis (Marks, 2015). Errors in this process illuminate the problem that this may be a major cause in the obesity crisis in the United States and the rest of the world.

Researchers Weinsier, Nagy, Hunter, Darnell, Hensrud, and Weiss (2000) explain that in metabolic ward studies, it has been suggested that weight loss and weight gain result in changes to the resting metabolic rate (RMR) that serve to return individuals to previous bodyweight, again, in an attempt from the body to save itself from starvation. After the researchers calorie restricted subjects for ten days, weight was lower. After ten days of going back to previous calorie intake, body composition and RMR returned to where it was before the overweight state (Weinsier, 2000). This research supports the set-point theory of obesity.

Significance of the Study

This study may be significant to a number of constituents. The outcomes of the study can potentially benefit specifically school administration leaders, schoolchildren, and parents of schoolchildren. By exploring leadership strategies that may benefit students with obesity and identifying problems within the school system, administrators will potentially develop more strategies that cut down on absenteeism and childhood obesity. Great benefits for schoolchildren may potentially be available in that strategies implemented from administrators will help children become healthier and avoid childhood obesity, while at the same time cutting down on absenteeism and poor school performance. Parents may also be of benefit, as less parents will be required to miss work on days children are home with an illness, seeing the doctor, or missing school because of other obesity related factors.

Research Questions

The following research questions guided the study:

1. How does childhood obesity affect absenteeism?
2. What factors contribute to childhood obesity in a school setting?
3. What should school administrators do to address obesity issues in elementary schools?

Definition of Terms

The operational terms that are crucial to understand for this study are:

Absenteeism: Absenteeism refers to excusable or inexcusable absences from elementary or middle/high school (Kearney, 2008).

BMI: BMI is the body mass index of an individual. The International Task Force on Obesity has agreed that BMI percentiles are the most practical to define obesity. Calculations posit it as weight in kilograms divided by the square root in height in meters (Taras, 2005).

Leader: A leader is an individual that influences a group of individuals to a common goal (Northouse, 2013).

Leptin: Leptin is defined by Lustig (2013) as a protein made and released by fat cells and signals to the brain that a person consumed enough food and has sufficient energy stored in body.

Obese Children: Obese children are those children considered obese that are in grades kindergarten through 12th (Geier, 2007).

Obesity: Obesity is defined as the excess of body fat mass (Guillalme, 1999).

Quality of Life: The quality of life of refers to an individual's perspective of position in life in the context of the culture and value systems in which that individual lives in relation to goals, expectations, standards, and concerns (Mitrevska, Eleftheriadou, Guarneri, 2012).

Research Method

This study used an exploratory research design to examine how childhood obesity influences absenteeism and school performance. This study specifically explored intervention strategies needed to avoid childhood obesity and its effects on absenteeism and school performance. Creswell (2014) explains if a concept or phenomenon needs more exploration and needs to be understood better because little research has been done to that point, exploratory research is the most useful. Adams and Schvaneveldt (1991) proclaimed the very purpose of exploratory research is to seek out new insights, ask questions, and assess phenomena in a different perspective. Exploratory research serves three purposes: satisfy curiosity, build

methodology, and making recommendations for future researchers in continuing research on the topic (Adams, 1991). Currently, no abundance of research has been conducted on the topic.

The approach to this study was phenomenological. Creswell (2014) explains phenomenological research as a design of inquiry in which the researcher describes the lived experiences of individuals about a phenomenon as described by the people that are participating in the study. The description culminates because of the experiences for the individuals who have experienced the phenomenon, and this design typically involves conducting interviews (Creswell, 2014). Byrne (2001) explains that phenomenology is one of the many types of qualitative research approaches. Byrne (2001) posits that phenomenological researchers hope to gain understanding of the essential truths of the lived experience – an example being a family's lived experiences while waiting for the results of major surgery undergone by a loved one.

The first phase of this exploratory research study consisted of one-on-one interviews with elementary school leaders in each school district on what effects childhood obesity has on absenteeism and school performance. Interviewing people is one of the most common and powerful ways to try to understand other human beings (Denzin, Lincoln, 1998). Denzin (1998) posits that interviews are used for purpose of understanding an individual or group perspective. Strategies and interventions used to treat the obesity epidemic and curb the negative effects it has on absenteeism and school performance were also primary questions. Phase two examined the effects of obesity on absenteeism and school performance in the school district and explored what types of strategies and interventions could be used by school administrators and physical education teachers to help deal avoid childhood obesity and its negative effects on absenteeism and school performance. The third phase reviewed the effects childhood obesity has on school

performance in the district and look at different strategies needed to help avoid obesity and negative impacts on absenteeism and school performance.

Limitations of the Study

Researchers Marshall and Rossman (1999) declare that no proposed research project is without limitations; no such thing exists as a perfectly designed research study. A discussion of limitations earlier on in the proposal reminds the reader what the study is and what it is not – and how its results can or cannot contribute to the readers understanding (Marshall, 1999). Marshall and Rossman (1999) assert that the reader is better at making decisions about the studies usefulness for other settings by being aware of limitations.

Limitations for the study included the truthfulness of the participants' response in the study. The participants' willingness to participate in the study itself completely is another limitation. If the participants choose to begin the study, ability and freedom allow withdrawing from the study at any point. Participants in the study may be not willing to disclose perspectives to the most accurate of abilities for fear of putting districts or schools at risk for scrutiny and not contributing enough to this problem. Continually reassuring participants of the study that outcomes are based solely on research purposes and making sure interviews are constructed in a time-efficient manner address this limitation.

Delimitations of the Study

This study was delimited to five elementary schools in one school district in Chicago, Illinois. Participation delimitations in this study are delimited to elementary physical education teachers and elementary school guidance counselors. These educators had at least one year of experience.

Chapter Summary

This phenomenological study contains five chapters. Chapter one identified the phenomenological study's foundation by identifying the problem and why it is important. It identified the significance of the problem and the purpose of the study to be conducted. It identified the framework lens of how the study will be conducted and what parameters are involved in the study. Chapter two examined previous literature on the problem and uncover previous studies closely related to the one being undertaken (Creswell, 2014). Chapter two uncovered some gaps in knowledge and look at how older research connects to the study that is being conducted. The third chapter contains the research methodology for the study. This will contain the design of the research setting, the participant selection, and other study procedures conducted. The fourth chapter will highlight the outcomes of the study and help answer research questions. The fifth and final chapter will include discussions of the study and help point researchers in the direction of future studies that deal with childhood obesity and absenteeism and school performance.

Chapter 2

Review of Literature

This study explored leader's perspectives on childhood obesity and absenteeism and specifically explore effective strategies that school administrators take. This literature review explores and discusses studies that are relevant to childhood obesity and absenteeism. Five sections make up the literature review: Section one highlights obesity in the United States; section two explores more specifically childhood obesity in the United States; section three explores the effects of childhood obesity on school performance and absenteeism; section four explores the historical perspective of obesity; and section five highlights theories that support the research.

Obesity in the United States

According to Caballero (2007), until the 1970s, obesity was defined as a natural and ideal body weight that was set up by the life insurance industry. Researchers Ogeden, Carroll, Kit, and Flegal (2012) analyzed findings from the National Health Examination Survey from 1999-2010. The researchers discovered in 1999-2000, the prevalence of obesity among men in the country was at 27.5 percent and by 2009-10, the percentage of males being obese increased to 35.5 percent (Ogden, 2012). Researchers suggest that many of the numbers researchers put out are actually higher than the numbers suggest because of self-reporting in surveys. According to Collier (2010), the Behavioral Risk Factor Surveillance System survey (BRFSS) is a self-reported survey system and both men and women tend to overestimate the height, and underestimate the weight of themselves, especially in women. The overall 2009 BRFSS obesity prevalence, which was estimated at 26.7 percent, is 7.2 percentage points lower than the national

2007-2008 National Health and Nutrition Examination Survey (NHANES) received from data that was actually measured, not self-reported.

Researchers Lavie, Schutter, Parto, Jahangir, Kokkinos, Ortega, Arena, and Milani (2016) posit that since obesity worsens most cardiovascular disease risk factors, hypertension, coronary heart disease, heart failure, and atrial heart fibrillation all increased in the setting of obesity. Lavie (2016) examined that hypertension (HTN) and coronary heart disease (CHD) were two common disease resulting from cardiovascular disease (CVD). Lavie (2010) that HTN is more common in obese people compared to healthy people and that lots of geometric abnormalities were a result of the combination of HTN and obesity. Smith (2011) found from the findings of a long-term follow up of a large pharmaceutical trial in Scotland that being obese may increase the chance of having a fatal coronary heart disease event independent of known obesity-affiliated CVD risk factors such as high blood pressure and high cholesterol. When looking at fatal events from CVD threats, the Scotland study found that there was a 60 percent higher risk of a fatal event when that person was obese.

Implications for overall health become a bigger concern as well. According to Phillips (2016), one billion people, or 20 percent of the world's population will be obese by the year 2030. This is cause far greater health implications than what meets the eye. The current obesity epidemic is one of the greatest public health issues of the centuries because of the health implications carried with it such as different metabolic syndromes, type 2 diabetes, CVDs, along with many other chronic health implications (Phillips, 2016). A lot of the rise of obesity and many of the health implications that follow are a result of the rising amounts of shiftwork in United States businesses. In the review of studies by researchers Amani and Gill (2011), they explained that six out of seven cross-sectional studies showed higher BMI/obesity rates in people

involved with shiftwork. Higher frequency of meals lower nutrition quality may be a result of this higher prevalence (Amani, 2011). Higher rates of shift work show some of the reasons why there may be worsening health implications in the United States stemming from obesity.

Many studies are beginning to illustrate increased rates of obesity for people that are in certain demographic categories or areas. For example, household income is one crucial factor in obesity predictions (Boumtje, Huang, Lee, Lin, 2005). Boumtje et al. (2005) explains that household income is positively associated with normal weight in both groups of children and negatively associated with childhood overweight which confirms previous studies that children from low-income families may be at a greater risk of weight gain. Another study that Boumtje (2005) cited was a survey conducted by the CDC, which explained that low-income children were heavier than children that were from families that were better off. Race and ethnicity are also shown to play an important role in determining obesity in the United States as blacks and Hispanics are more likely to become overweight than other ethnic groups. Hispanics and black school-aged children have the highest probabilities of becoming overweight and increase the marginal probabilities of being overweight by .152 and .137, respectively (Boumtje, 2005).

Additionally, low educational attainment was another consistent indicator of childhood obesity. According to Crosnoe (2007), adolescents who reached Wave I of obesity enrolled in college at the rate of 23 percent compared to 35 percent of the non-obese peers. Crosnoe (2007) also explained parental range for a high school diploma for parents of obese children was 2.79, and the college diploma rates for parents was three. This shows that educational attainment reflects obesity in the population in the United States, both from the perspective of the student and the student's parent education attainment.

Childhood Obesity in the United States

After little change was seen in the prevalence of childhood overweight and obesity in the 1960s and 1970s, there was an increase between the National Health and Nutrition Examination Survey (NHANES) II in the 1970s and NHANES III in 1994. The NHANES 2003-2004 results also showed significant increases in childhood obesity prevalence (Ogden, C, Yanovski, S, Carroll, M, Flegal, K, 2007). The higher the prevalence of childhood obesity becomes, the more alarming the results are as Magnusson (2005) posited that obesity during adolescence has been found to increase the likelihood of death during middle age. In addition, there is now more evidence that the insulin resistance syndrome which results in the clustering of obesity, hyperglycemia, hyperinsulinemia, dyslipidemia, and hypertension (Magnusson, 2005). Alarming rates of type 2 diabetes in children has also increased at an alarming rate because of the rise of childhood obesity as a fifth to a quarter of obese children or adolescents have been found to have impaired glucose tolerance (Magnusson, 2005).

Zappalla (2010) explains that diseases that were originally only found in adults that suffer from obesity and now being found in children that suffer from obesity. Fung (2016) also elaborates on this point by saying that childhood obesity leads to adult obesity down the roads and brings with it the same health implications. Obesity has gone on to affect children at younger and younger ages and a study that covered a two year period from 2000-2001, children of all ages show an increased prevalence of obesity, even those children in the zero – six month old age range (Fung, 2016). The question of why in current times are newborns suffering from obesity has not been asked very much before and Fung explains why. Fung (2016), explains that obesity is considered an energy-balance problem where people do not burn off more calories than they eat, Fung asks the question of if six-month olds are breast fed and six-month olds are not able to walk or do

strenuous exercise, it would not make sense that childhood obesity is an energy balance problem. Fung (2016) posits that the answer to newborn obesity and childhood obesity is simple: The Hormonal Theory of Obesity explains that insulin is the prime cause of all weight gain and that it causes adult obesity, childhood obesity, newborn obesity, and infant obesity.

According to Lustig (2013), society is going in the wrong direction as far as fighting childhood obesity. A story told by Lustig (2013) explained that Juan was a 100 pound six-year old boy who was "wider than he was tall" and when Lustig questioned the mother what the child had been drinking, her reply was that he drank about a gallon of orange juice per day. She gave Juan orange juice because Women, Infants, and Children (WIC) (a government entitled program for the poor run by the US Department of Agriculture) gave it to them and told them it was healthy. Science should drive many of the problems in society today but a lot of time, especially in the health field, politics end up getting in the way (Lustig, 2013).

Insulin resistance at the onset of puberty can also become an issue, as it accentuates the risk for obesity and obesity-related complications (Hassink, 2007). Some things like changes during puberty are stacking the odds against children to begin with. However, parents and other leaders can promote treatment and prevention by a few lifestyle changes. Hassink (2007) promotes the term *Balance* as an obesity prevention strategy. This includes belief, assessment, lifestyle, activity, nutrition, child/young adolescent, and environment. If promoting positive vibes with all these terms in a child or young adolescent's lifestyle, Hassink (2007) that obesity can helped, be prevented. Researchers Davis, Gance-Cleveland, Hassink, Johnson, Paradis, and Resnicow (2007) explain that promoting healthy lifestyles and behaviors such as family meal times help because children were shown to get more fresh fruits and vegetables and were also shown to have a lower intake of fried foods and sugary soft drinks. Programs of 30-60 minute of physical activity

duration that was performed three to seven days a week showed reductions in body fat and visceral adiposity among obese children and adolescents (Davis, 2007).

Childhood Obesity Impact on School Absenteeism and Performance

A study by researchers Li, Raychowdhury, Tedders, Lyn, De Fede, and Zhang examined the associations between school absenteeism and increased BMI among school-aged children enrolled in National Health and Nutrition Examination Survey from 2005-2008. What they discovered was a large association between BMI percentile category and school absenteeism in a large study population of school-aged children. The odds of missing school two days or more per school month were doubled and quadrupled respectively, among overweight and obese children compared with children of normal weight (Li, 2012).

Pan, Sherry, Park, and Blanck (2009) conducted a study to identify whether a correlation between childhood absenteeism and BMI exists. This was measured from the number of parent-reported sick days over the span of a year. The variable used throughout the study was weight status classified by BMI and obesity being greater than the 95^{th} percentile of BMI in children. Pan et al. (2009) discovered average school days missed, due to illness or injury was 3.9 days per year for all adolescents. However, with consideration of BMI, the average number of missed school days was 3.4 days per year among children with a healthy BMI, 4.4 days among overweight children, and 4.5 days amongst obese adolescents. This study illustrates a direct correlation between absenteeism and the BMI of children: as the BMI of children increases, so does the likelihood of absenteeism.

Childhood obesity is a major public health problem as it increases the risk for various chronic diseases resulting in decreases in life expectancy and quality of life, which in turn could greatly affect school performance (Wang, 2008). Wang and Veugelers (2008) posit that

childhood obesity rates have dramatically increased in the past decades as in 2004 in Canada, about 26 percent of children were overweight or obese and eight percent of children were obese. Wang and Veugelers (2008) explain that body weight affects school performance whereby an increase of one unit of BMI is associated with a decrease of .003 in school performance. Aside from obesity causing a decline in school performance directly, indirectly obesity causes an indirect association with poor school performance as it affects children's psychological outcomes such as low self-esteem and depression from overweight concerns (Datar, 2004). Datar (2004) analyzed data from the Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K) and determined that among boys, overweight status at the beginning of kindergarten was not significantly associated with reading test scores; however, overweight boys scored lower in math than non-overweight boys.

Historical Perspective

Bray (1990) posits that Hippocrates was one of the first people to identify that obesity was a risk to health, and later became more popular during the ensuing centuries. However, obesity has been around since the Stone Age, as massive stone carvings and other objects recovered and has been described in some works that date back to the Galen and Roman Empires (Bray, 1990). Bray (1998) explains that Hippocrates realized that "sudden death is much more common in the naturally fat than the naturally lean (p. 160).

Modern day obesity is much more difficult to understand because available literature on obesity is not always operationally in the same manner, such as researchers not presenting a set bodyweight to measure levels of obesity, or other researchers enable people to self-report cases of obesity (Clark, Parr, Gastelli, 1988).

Clark et al. (1988) posits that in the late 1960s and early 1970s, many scientists believed that the actual cause of obesity was hyperphagia, or compulsive overeating, and portrayed obese people eating in response to environmental cues such as sight or smell of food, and not real hunger sensations. Recently, more theories, such as the set-point theory of obesity, behavioral susceptibility theory of obesity, and the hormonal theory of obesity have been discussed about why people become obese, which explains that feedback mechanisms are necessary to create an appropriate amount of fat stores (Clark et al. 1988).

One of the main things considered when figuring out how to avoid obesity in children was the activities that children should perform and what different school prevention programs could offer. Researchers Goran, Reynolds, and Lindquist (1999) explained that physical activity was key in avoiding future cases of obesity as physical activity is closely linked to behaviors such as smoking, diet, drug use, sexual activity, and academic performance. Goran (1999) explained that the burden of obesity research should focus on the prevention of obesity, as health risks such as obesity cause large economic costs of over 100 billion dollars annually in the United States. The other case made about prevention of the obesity epidemic is that causes and health effects of obesity continued well into adulthood. Goran (1999) asserts that childhood estimates posited that only 7-30 percent of children ate the recommended number of fruits and vegetables for cancer prevention.

Populations of Native Americans have pointed to ever-increasing numbers of obesity and the native community has determined that it is of utmost importance to start taking measures to prevent the obesity epidemic amongst its people (Story, Evans, Fabsitz, Clay, Rock, Broussard, 1999). Story (1999) determined that the primary potential prevention of obesity is directed at the task of helping children and families develop different patterns of lifestyle to promote healthy

and safe environments to encourage healthy dieting and better physical activity. Story (1999) explains that school programs to prevent obesity are small in number, but Parcel et al (77) showed six guidelines for the development of obesity-based prevention programs in school: 1. Interventions should be directed at both diet and energy expenditure. 2. Diet strategies should involve parental guidance as well as guidance at school. 3. Physical activities should teach lifelong strategies – not just competitions that are characteristic of gym class. 4. Grocery shopping lessons and purchase preparations. 5. Teaching children how to self-monitor both diet and physical activity, and 6. Peers should learn to contribute to a healthy school environment that supports healthy eating and exercising.

Health education of obesity is the most important detail in ensuring that healthy lifestyles are the number one priority in America's schools (Story, 1999). Researchers Broussard, Sugarman, Bachman-Carter, Booth, Stephenson, Strauss, and Gohdes (1995) revealed that an obesity and diabetes prevention program developed in a Native American community taught lessons to third and fourth graders. These lessons consisted of school-wide walking and jogging, daily mile long run or walk, and a "star/superstar" program that involved home physical activities for the child and a family member (Broussard, 1995). Along with these new physical activities, the school breakfast and lunch programs have been modified to include a lot more choices of fresh fruits and vegetables and less fatty food as well as less sugary foods that fall under national guidelines (Broussard, 1995).

Theoretical Perspective

Hormonal Theory of Obesity

Taubes (2012) explains that theories of obesity need to shift from a physics perspective, and placed in the category of a physiological perspective, bringing the hormonal theory of

obesity to the forefront of obesity research. Before the Second World War, European investigators had believed that obesity was more of a hormonal or regulatory disorder, and it was proposed by Gustav von Bergmann in the early 1900s (Taubes, 2012). Taubes (2012) argues that for the longest time the thinking was that people would eat too many calories and not burn enough calories by exercise and that people were being lazy and have too big an appetite. Taubes (2012) explains that the alternate hypothesis is that obesity is a hormonal defect – it is not excess calories and insufficient exercise that cause obesity, rather it is the quality and quantity of the carbohydrates consumed because its effects on hormones of the body.

Fung (2016) asserts that insulin is a hormone that is the biggest contributor to obesity. Obese people secrete much higher levels of insulin than those that have normal weight, and insulin levels in lean subjects quickly return to normal levels after eating, however in the obese they stay extremely high (Fung, 2016). Insulin levels are about 20 percent higher in obese people, which explains important things such as why waist circumference and waist/hip ratios are much higher in obese people (Fung, 2016). This hormonal syndrome originates because of the liver becoming insulin resistant. Lustig (2013) explains the process the body takes because of a faulty liver:

> Metabolic (hormonal) syndrome starts as the body accumulates energy, storing it in the liver and in visceral fat tissue. This makes the liver insulin resistant, which starts metabolic dysfunction - a detrimental cascade of effects that damages every organ in the body. This causes the liver to transport energy improperly. The pancreas responds by increasing insulin release to make the liver do its job. This drives insulin levels even higher (hyperinsulinemia), which causes further energy deposition into subcutaneous fat tissue and causes the persistent weight gain that drives obesity (Lustig, 2013, p. 95).

Lustig (2013) also expresses that cortisol [considered the stress hormone] is another very important hormone in the body that can affect people and chances of obesity. If pressures such as familial, social, cultural, etc. are playing a huge burden on somebody, the stress response can become activated for a long period of time, which is not good for the human body. When cortisol starts flowing in the blood throughout the body, it raises the blood pressure, increases the blood glucose level which is a big factor in getting diabetes, and increases the heart rate (Lustig, 2013). Cortisol increases intake of refined carbohydrates as well, some of which people refer to as "comfort food," while at the same time it increases that fat stores in the body, and not just any fat stores, but it specifically increases the visceral fat stores, which is the fat that is associated with cardiovascular disease and metabolic syndrome (Lustig, 2013).

Dockray, Susman, and Dorn (2009) assert that depression and obesity may have some biological determinants and evidence continues to show that there is an increased likelihood for obesity in children with depression and later on into adulthood. Depression is associated with cortisol, or stress. Dockray, et al. (2009) explains that products in the stress system are a very massive agent as far as the development of obesity goes, and the physiologic connection linking depression and BMI is the repeated activation of the hypothalamic – pituitary – adrenal gland stress response with an accompanying increase in cortisol secretion. This cortisol secretion becomes a problem for the same reasons that Lustig (2013) gave, as visceral fat is more likely to form, causing heart disease and other metabolic issues in the human body.

Ghrelin is a much-unknown type of stomach hormone whose functions include stimulation and release of growth hormone and appetite and helps the body in building fat accumulation (Sato, Ida, Nakamura, Shiimura, Kangawa, Kojima, 2013). One mechanism of the diet inducing obesity is that ghrelin rises by reducing some responsiveness of other hormones to

the plasma ghrelin, which suppresses the neuroendocrine ghrelin axis. This makes obese people feel hungrier and want to increase food intake even though they theoretically should not be hungry (Sato, et al., 2013). As explained by different researchers, hormones such as insulin, leptin, cortisol, and many other hormonal regulations play a part in how people become obese. Genetics and environmental factors all play a vital role as far as hormones go in the regulation of lean body mass and obesity, and a dysfunction of these hormones may result in more obesity than without that dysfunction.

Behavioral Susceptibility Theory of Obesity

Carnell and Wardle (2008) conclude that previous bodies of research indicate that obese adults differ from normal weight adults in many categories. Obese adults were shown to have ineffective down regulation of appetite after food consumption, lower sensitivity to gastric motility, and they overconsumed food when being led to believe it was normal time to eat a meal (Carnell and Wardle, 2008). In a study by Carnell and Wardle (2008), a discovery of findings was similar to previous studies in that perceived hunger and hunger satiety responsiveness shows different levels of adiposity in children, and that children with higher responsiveness shows an increased risk of obesity later in life.

Researchers Bouchard, Drapeau, Veronique, Provencher, Lemieux, Chagnon, Rice, Rao, Vohl, Tremblay, Bouchard, and Peruss (2004) assess that the three eating behaviors explored in the Three Factor Eating Questionnaire (TFEQ) are cognitive dietary restraint (being able to withhold from eating food), disinhibition (the feeling of no longer being inhibited), and susceptibility to hunger (likelihood that someone is hungry after a certain set of circumstances). The relationship between obesity and eating behaviors is suggested to be strongly related, as obese subjects generally show higher disinhibition scores and a much great susceptibility for

hunger compared to people of normal weight (Bouchard, et al. 2004). Bouchard, et al. (2004) also explains that genetic behaviors are a huge factor in some of these behaviors in that an Amish community reported that there were heritability estimates of 28 percent, 40 percent, and 23 percent for cognitive restraint, disinhibition, and susceptibility to hunger, respectively. This study indicates that behaviors do play a large role in the probability for obesity in the future and many times genetics plays a huge part in those behaviors as indicated by reports from the Amish community (Bouchard, et al. 2004).

The Amish community study conducted by researchers Steinle, Hsueh, Snitker, Pollin, Sakul, St. Jean, Bell, Mitchell, Shuldiner (2002) explain more in depth on how behavior and genetics play a role in the probability of future obesity. The study discovered that disinhibition scores in the study were higher in obese persons than in persons of normal weight. As the brain is the main factor in food intake, it is obvious that intuitive behavioral traits such as a tendency for inhibition and over-eating, can promote obesity in the right kind of environment (Steinle, et al. 2002). This is the largest family study to date on the question of eating behaviors and the linkages to obesity. Eating behavior is familial in that the Amish show for the first time the connection between specific chromosomal regions to eating behavior traits.

Not only do intuitive cues in the brain make behaviors more susceptible to obesity, but external factors also influence behaviors, and they do not affect everyone equally (Herman, Polivey, 2008). Herman and Polivey (2008) explain that people that are more obese are more likely to eat on an irregular basis as opposed to normal weight counterparts, and therefore affected by palpability and other sensory information that people of normal weight are not. However, both external and internal cues inhibit behavioral traits that will make a person more or less likely to overeat and become obese.

Set Point Theory of Obesity

The set-point theory of obesity explains that the body has an internal control mechanism that is a set point that is located in the lateral hypothalamus, and that regulates metabolism to maintain weight at its natural, predetermined level (Farias, Cuevas, Rodriguez, 2011). Farias et al. (2011) assert that in some animal studies there have been cases of animals rapidly regaining weight after they were on a calorie-restricted diet and a proposed explanation for this is that in response to underfeeding, an adaptive energy conservation mechanism emerges with subsequent lowering of the basal metabolic expenditure. This is an attempt to conserve a lot of energy for the body as the body thought it was in trouble before because of the intense caloric restriction. Farias et al. (2011) posits that overfeeding results in fewer compensatory changes and that the basal metabolic rate does not necessarily go up when overfeeding, as the rate goes down when the body is calorie restricted. It is concluded that the human organism is way better at protecting itself against losing too much weight as opposed to protecting against weight gain – and that demonstrates the efficiency of good food utilization, especially when food sources are scarce (Farias, et al. 2011).

Modern methods like calorimetry allow researchers to measure total energy expenditure over a period of days using urine samples. It is methods such as this that show that while metabolic slowdown can occur during active weight loss because the patient has a marked calorie deficit, the slow-down ends once the patient reaches a target weight and goes into weight maintenance mode (Jancin, 2003). Even though there are some instances like this that show that the Set Point theory of obesity is losing ground, it has been useful in helping victims of the obesity epidemic to not be blamed for the problem. Treatments emphasize a non-blaming

position showing the clinical usefulness of the Set-Point Theory of obesity (Flodmark, Lissau, Moreno, Pietrobelli, Widhalm, 2004).

Summary of the Literature Review

Scholarly research exists in much of the problems and theories of obesity, as well as a detailed history. However, there is little research on how childhood obesity causes absenteeism and poor school performance. The research being done will add to the already existing research of obesity, however will focus on absenteeism and school performance as well as leaders' perspectives on what can be done to curb the issue. Chapter three will present the methodology used to conduct the research study.

CHAPTER 3

METHODOLOGY

This qualitative study explored how obesity influences absenteeism and school performance and what contributions need to be addressed by school administrators. Chapter three presents the research design, rationale for the method, the research setting, research questions, and selection of participants, sampling, instrumentation, informed consent, data collection, and data analysis.

Research Design

This study used a qualitative research design to explore how obesity influences absenteeism and school performance and contributions needed by administrators. Creswell (2014) explains that researchers seek to establish meaning of a phenomenon from the views of participants and studying how it develops shared patterns of behavior over time. Marshall and Rossman (1999) asserts, "Qualitative research…crosscuts disciplines, fields, and subject matter. A complex, interconnected family in terms, concepts and assumptions surround the term qualitative research" (p. 2). Gower (1985) asserts that qualitative research can offer the policy maker a theory of social action grounded on the experiences of those likely to be affected or that are part of the problem…giving the problem visibility and weight so that decisions and actions can be more accurately assessed.

This study specifically explored the problem of childhood obesity and those influences on absenteeism and school performance. The study also examined potential strategies and interventions education leaders may implement to slow this problem. The research process used one-on-one interviews of participants' perspectives on the issue. Stebbins (2001) explains that

research should always be exploratory: a long cumulative, choice-laden, and interest-governed process in which no single study is definitive (pp. 5-6).

Descriptive phenomenology refers to the study of personal experience and requires a description of the meaning of the events that were experienced by participants involved in the study (Padilla-Diaz, 2015). The approach to this study was phenomenological in nature because of the documentation of the lived experiences of both school administrators and obese school children. Padilla-Diaz (2015) posits that the best way for one to discover how to use phenomenological research is when research requires a deep understanding of experiences that are similar to a group of people.

Rationale for Method

Qualitative research uses a wide and deep lens by looking at the choices and behaviors humans make as it happens naturally, and researchers do not want to intervene in this natural behavior phenomenon (Johnson, Christensen, 2012). Instead of using a standardized instrument, the qualitative researcher does things like ask questions, record data, make interpretations, and record what is observed (Johnson, 2012). By exploring childhood obesity with absenteeism and school performance, qualitative research is useful for what is being studied.

Research Questions

Three qualitative questions are guiding this study:

1. How does childhood obesity affect absenteeism?
2. What factors contribute to childhood obesity in a school setting?
3. What should school administrators do to address obesity issues in elementary schools?

Research Setting

The setting for this study took place at three four school districts in Southeast, Minnesota, and all of the schools involved are elementary schools. The three different elementary schools are Ridgeview Elementary School in Oakville School District (OSD), Washington Elementary in Iron Mountain School District (ISD), Glenview Elementary School in the Chesapeake School District (CSD). In the three elementary schools, each school contains grades 1-5. As of the 2016-2017 school year, there were 50 teachers at Ridgeview Elementary School (OSD Statistical Data, 2017). During the 2016-2017 school year, OSD served over 1,853 students. The composition of the student population of Ridgeview Elementary School includes 87.2 percent white, 2 percent African-American, 7.3 percent Hispanic, and .5 percent Asian. The elementary school population was 796 students as of the 2016-2017 school year, about 43 percent of the district population. Of the 50 teachers at Ridgeview Elementary during the 2016-2017 school year, 27 percent of teachers were chronically absent. 20 percent of the teachers were either in their first or second year of teaching.

Sampling

The sample for this study included elementary school grade school teachers and some administrators from the elementary schools involved. Four grade school teachers, a gifted and talented teacher, and a physical education teacher were participants involved in the one-on-one interview session. Two grade school teachers and the same gifted and talented teacher also participated in the focus group interview. According to researchers Palinkas, Horwitz, Green, Wisdom, Duan, and Hoagwood (2013), purposeful sampling is a technique that is very popular in qualitative research for the selection of information-rich cases for the most effective use of a small abundance of resources. Selected participants in this study will be selected using

purposeful sampling. Sampling of times, location, events and people are extremely important – in that the researcher selects people according to what is to be studied. This could include age, gender, status, and role or function in an organization (Coyne, 1997).

Selection of Participants

Three school teachers (from two different schools), a talented and gifted teacher, a physical education teacher, and a former pre-kindergarten teacher will be selected for one-to-one interviews. A description of the elementary schools in the USD will include the enrollment, the ethnic heritage distribution, and the percentage of students on the free or reduced school lunch program. The number employees, including teachers and administrators in each school will also be included in the description.

School I (Ridgeway)

School I is an elementary school that served 694 students as of the 2017-18 academic school year. 87.2% of the population of School I was white, followed by 7.3% Hispanic, and 2 percent African-American, and .5% Asian. To qualify for free lunch, students' families must earn less than 15,171 dollars during 2015. 29.6% of students at this elementary school receive free lunches. http://public-schools.startclass.com/l/99323/Edgerton-Community-Elementary-in-Wisconsin

School II (Washington)

School II is an elementary school that served 370 students as of the 2017-18 academic school year. 78.4% of the student population was white, 8.1% Hispanic, 4.3% African-American, and 2.7% Asian. 43.16% of the student population was on the free or reduced school lunch program. To qualify for free lunch, students' families must earn less than 15,171 dollars

during 2015. 49.5% of students at this elementary school receive free lunches. http://public-schools.startclass.com/l/99323/Edgerton-Community-Elementary-in-Wisconsin.

School III (Glenview)

School III is an elementary school that served 376 students as of the 2017-2018 academic school year. 91.8% of the student population was white, followed by 5.3% Hispanic, 1.3% African-American, while .3% of the school is Asian. To qualify for free lunch, students families must earn less than 15,171 dollars during 2015. 18.9% of students at this school receive a free lunch. http://public-schools.startclass.com/l/99356/Levi-Leonard-Elementary-in-Evansville-Wisconsin#Demographics&s=2iahF.

Role of Researcher

The role of the phenomenological researcher is to construct what is being studied according to its own characteristics and traits (Padilla-Diaz, 2015). According to Hoepfl (1997), three things must be done before qualitative research begins: adopt characteristics of what has already naturally happened, develop the level of skill it will take to be a good human instrument, while at the same time prepare a research design that utilizes appropriate strategies for natural discovery. Berg (1989) insists that the researcher is a partner with the study population, which gives the research much greater value.

Instrumentation

Chenail (2011) construes that while the researcher is performing as a discovery instrument, qualitative researchers usually develop specific study-specific sets of questions that are open ended, and the goal is to provide openings for the subjects being interviewed to be able to disclose perspectives with no limitations. In an interview, the first question asked by the interviewee should be: Can you please describe as detailed as possible, a time when you

experienced a phenomenon, and the remaining questions to be asked should be focused on the interviewee with a focus on the phenomenon that is being researched (Englander, 2012).

Interview Questions

According to Marshall and Rossman (1999), qualitative researchers rely quite extensively on in-depth interviewing. An interview is a useful way to get large amounts of data quickly and the interview brings together different interpretations across larger numbers of subjects than if there were fewer participants (Marshall, 1999).

Informed Consent, Confidentiality, and Ethical Considerations

The research community for a long time has valued the importance of respecting the rights of the participants involved in research (Corti, Day, Blackhouse, 2000). A consent form will be given to participants prior to the interviews take place. The consent forms will include descriptions of discomforts the participants may encounter, benefits the participant may expect, and a confidentiality statement of the study. A list of names that the study participants can contact if they have any questions about the study will be available, as well as a statement that indicates the study is voluntary and that the participants may choose to leave the study at any time with no penalty (Johnson, 2012).

Data Collection

The collection of data first began after gaining approval from the Winona State University Institutional Review Board (IRB). Researchers Opsal, Wolgemuth, Cross, Kaanta, Dickmann, Colomer, and Erdil-Moody (2016) explain that today's IRB and requirements for doing ethical research resulted from a series of events that happened because of extreme cases of biomedical research that failed to protect study participants. Going through an IRB approval will help get avoid this problem.

The data collection steps are about setting the boundaries for the study, collecting information through unstructured or semi structured observations and interviews, documents, and visual materials, as well as establishing a system for recording the information received (Creswell, 2014). The participants in the study will convey the information through a one-on-one interview session.

One-on-One In-Depth Interview

One-on-one interviews were conducted with the school leaders and teachers in the district. The one-on-one interview is generally of primary form of interviews in research as it can be used in many research settings and can be used in different structures of research (Crouch and McKenzie, 2006). One-on-one interviews were conducted with all six elementary school leaders that were involved in the study.

Focus Group Interview

According to Rabiee (2004), a focus group interview is a technique involving the use of in-depth group interviews in which participants are selected because they are purposive, not necessarily, because they are representative of a specific population that is focused on a specific topic. Participants are selected for focus group interviews because they have something to say on the topic, within age range, have similar socio-characteristics, and would be comfortable talking to the interviewer and other participants in the study (Rabiee, 2004). According to researchers Freitas, Oliveira, Jenkins and Popjoy (1998), focus groups can be responsible for generating new ideas, generating a new hypothesis based on the interactions of the participants, to supply interpretations of the participant's results from the initial study, and for generating new information on a wider scale.

Documents Review

Creswell (2014) posits that during the process of research the investigator may collect qualitative documents that consist of newspapers, minutes of meetings, official reports, personal journals, diaries, letters, and e-mails.

Triangulation

Triangulation refers to the observation of the research issue from at least two different perspectives (Flick, 2004). Flick (2004) also explains that triangulation gives the perspective of ideas from different times, different people, different observers or interviewers that balance out the subjective influences of individuals.

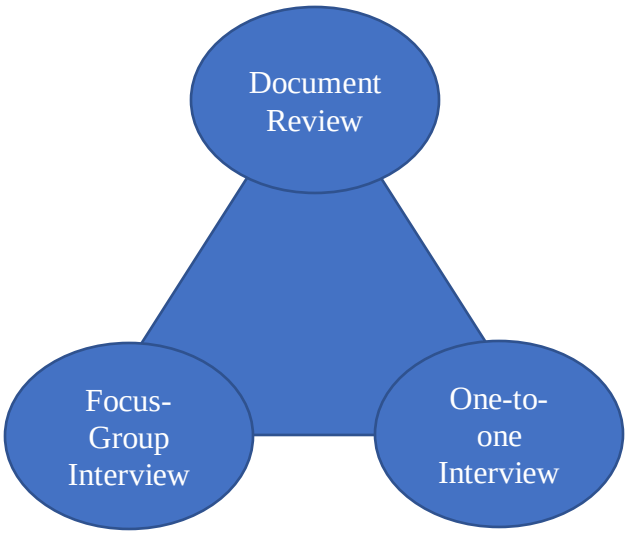

Figure 1: Triangulation Model

According to Creswell (2014), there are four basic types of data collection and they go beyond typical observation and interviews and can create reader interest in a proposal that can capture useful information that observations and interviews may miss.

Data Analysis

Qualitative data analysis consists primarily of for the purpose of detection and other tasks such as defining, categorizing, theorizing, explaining, exploring, and mapping, all which play a

part in the researcher's role (Richie, Spencer, 2002). The information obtained from the interviews of the participants will be analyzed for different types of correlations. Analysis occurs, using specific analyzing strategies that attempt to transform the original data into a new and coherent depiction into what is being studied (Throne, 2000). There is not one single appropriate way to conduct data analysis, however it is mostly agreed that it is an ongoing process from the origins of research and continues throughout the study and it is when someone is making sense of the data, yet may seem particularly mysterious (Bradley, Curry, Devers, 2007). A hallmark of good qualitative research is the report of the diversity of perspectives about the topic (Creswell, 2014). Creswell (2014) also explains that because some sources of data are so dense and rich, the researcher needs to "winnow" the data – meaning focus only on some of the data, while disregarding other parts.

Limitations of the Study

Researchers Marshall and Rossman (1999) declare that no proposed research project is without limitations; no such thing exists as a perfectly designed research study. A discussion of limitations earlier on in the proposal reminds the reader what the study is and what it is not – and how its results can or cannot contribute to the readers understanding (Marshall, 1999). Marshall and Rossman (1999) assert that the reader is better at making decisions about the studies usefulness for other settings by being aware of limitations.

Limitations for the study include the truthfulness of the participants' response in the study. The participants' willingness to participate in the study itself completely is another limitation. If the participants choose to begin the study, ability and freedom allow withdrawing from the study at any point. Participants in the study may be not willing to disclose perspectives to the most accurate of abilities for fear of putting districts or schools at risk for scrutiny and not

contributing enough to this problem. Continually reassuring participants of the study that outcomes are based solely on research purposes and making sure interviews are constructed in a time-efficient manner address this limitation.

Delimitations of the Study

This study was delimited to four elementary schools in four school districts in Southwest Minnesota. Participation delimitations in this study were delimited to elementary school leaders and administrators. These educators each had at least one years of experience.

Summary

Chapter three provided the methodology for this research study. This qualitative exploratory research used a phenomenological approach to study educators' perspectives on childhood obesity and absenteeism and explored potential strategies to combat the problem of childhood obesity in elementary schools. Chapter four presented the findings and results of the participants' interviews.

CHAPTER 4

RESULTS / FINDINGS

The purpose of this qualitative study was to explore how obesity impacts school performance and absenteeism. Specific what contributes to obesity in schools and interventions warranted by administrators. Chapter four restates the problem, summarizes the research design, and presents the results of the findings of the study. Findings of research collected from elementary educator interviews, elementary educator focus group, a documents review, and key themes were identified as well. Interview data and identification of themes of the educators' opinions and experiences were included.

Review of the Problem Statement

Childhood overweight and obesity issues are major public health issues (Leatherdale, Wong, 2008). Little is known about childhood obesity and its effects on absenteeism and school performance. The odds of missing school two days or more per school month were doubled and quadrupled respectively, among overweight and obese children compared with children of normal weight (Li, 2012). Phillips (2016) explains that One billion people, or 20 percent of the world's population, will be obese by the year 2030.

Review of the Research Design

This study was exploratory in nature and explored the experiences of elementary educators regarding obesity. An interview protocol was used to obtain as much information from participants as possible. The interview protocol presented study to participants, explained its purpose, confidentiality, benefits that could be obtained from study, and told rights of participants that they could stop partaking in interview at any time. Six elementary educators provided insight on the issue of childhood obesity through their own lived experiences in separate varieties of elementary education levels. Two of the six educators, and a third separate elementary educator participated in a focus group interview.

Educator responses were used to answer the research questions:

1. How does childhood obesity affect absenteeism?
2. What factors contribute to childhood obesity in a school setting?
3. What should school administrators do to address obesity issues in elementary schools?

Participants responded to nine open-ended, one-on-one in-depth interviews, and three focus group questions that helped educators provide insights, opinions, and lived experiences to express leadership strategies in childhood obesity and absenteeism. Nine questions guided the one-on-one interviews, while there were three interview questions that guided focus interview – all to allow teachers to explain experiences and perspectives on childhood obesity and absenteeism.

Three themes were identified throughout the one-on-one interviews. Themes explained common experiences, perspectives, and thoughts on childhood obesity and absenteeism in elementary schools. Themes were then clustered to show to similarities of experiences and perspectives of the educators and were used to represent descriptions from the entire pool of interviewees.

Demographics of Educators

Six educators from four school districts participated in one-on-one interviews and all educators had at least one year of job experience. Educators who participated consisted of a physical education teacher, a fourth-grade teacher, a fifth-grade teacher, a gifted and talented teacher, a third-grade teacher, and a former pre-K teacher. Table I displays the demographics of the educators who participated in the study.

Table 1

Demographics of Educators

Ethnicity	Gender		Total
	Male	Female	
Caucasian	1	5	6
	6		

Years of Experience			
Career Experience	**Male**	**Career Experience**	**Female**
0-5		0-5	1
6-10		6-10	1
11-15		11-15	1
16-20	1	16-20	
21-25		21-25	1
26-30		26-30	1

Findings

One-on-One In-Depth Interviews

Participants' answers were sorted into themes based on their meaning and similarity of experiences. A summary of key themes appears in Table 2. Themes found from all participants (100%) of interviews are presented in descending order of the interview data.

Table 2

Themes Formulated from One-on-One In-Depth Interview Data

Theme	Theme Description	% of Participants Discussing
Theme 1	Increase in Absence and Decrease in Motivation	100%
Theme 2	Lack of Nutritional Guidance at Home	100%
Theme 3	Facilitate Health and Wellness Opportunities	100%

Themes presented below include the interview question(s) used to collect the emergent themes and textual quotes from participants follow to exemplify the theme. The quotes are from the actual interviews conducted by researcher taken from interview transcripts. Only quotes that apply to the emergent theme under discussion appear.

Emerging Theme 1: Increase in Absence and Decrease in Motivation

The interview questions that lead to the following theme are as follows:

Interview Question 1: Can you discuss whether you think childhood obesity is a problem in your school?

P1: I do think that there are children that definitely have an obesity issue at a young age, but I don't necessarily think that it's a problem. I think that possibly maybe two out of 20, um, would be considered obese, so to say it's a problem I would not say that, but there are definitely children that struggle with obesity.

P2: Um, (pauses) I don't know if I necessarily define it as a problem, I think that there is observation of children who lack in nutrition facts and nutritional information, and um, in that respect, we do see evidence of children who are overweight in our school, but I don't think that right now it is defined as a problem in our school that we have.

P3: Childhood obesity is a problem, um, not specifically at Washington Elementary School, in my opinion. Although, we do have 2-3 students in each classroom as being overweight or obese.

P4: I also work with children, that are, ya know, overweight, or obese, they seem to have less interest in physical activity, less desire to be involved in phy ed, sometimes there's more of an issue with them, ya know, wanting to skip that class or avoid that class, or stay in at recess, um, just any type of that sort or activity they're not interested in. Sometimes those children are more interested in video games, or indoor activists, Minecraft is pretty big, um, and then, ya know, sometimes I wonder about their nutrition, ya know I think sometimes the snacks that they bring, or the things that they have in their lunch don't look as healthy.

P5: I definitely would say that over the years of teachings 4K that it was something that families and children struggled with and was something that was affecting their daily lives. Um, whether that be large motor activities that we did in the classroom, or activities that they did at recess, and also activities that we would have our gym times, that it might (pause) make them less willing to participate and be active and play if they did not do it outside of school.

P6: I think it's a small population, but um, I do think it is a, um, problem. (Long pause). I see kids um, having uhhh, issues like with, um, stamina, a as far as academics, um, problems with ya know with recess or phy ed class ya know keeping up with the others.

Emergent Theme 2: Lack of Nutritional Guidance at Home

The interview question that lead to the following responses were as follows:

Interview Question 4: What do you consider as factors contributing to childhood obesity?

P1: I think probably the number one thing is education, ah, I should say a parents' education on nutrition, um, I um, find it interesting the types of snacks that I see kids who have a weight issue bring in, um, so many times, I kind of, um, cringe watching them eat a donut for breakfast, or you know just something that doesn't pack a lot of protein or that is a common breakfast food, bag of cereal, um, and so I think it's just really education and resources from parents point, um as since I teach fourth grade, a ten year old, you know, I feel like they should have some responsibility in knowing and understanding the good types of foods.

P2: They may not be able to have the knowledge to know the alternatives that they have to make them feel good and healthy and so they're eating the wrong foods, or, it may be something really, really difficult like a health issue that needs to be dealt with by a doctor on how to control what they're eating and how to control their body makeup and how to breakdown foods that can eliminate obesity, ya know? So, I think it's a combination of many different things that contributes to the obesity factor that is happening in our society.

P3: I know that there are handouts that the nutritionist hands out that are covered in the lesson and hopefully the students bring that home and it is carried over to the

food choices and conversation at home, so the parents can get information through that. At times I have um, sent home an activity calendar like during winter break just to give them some ideas about exercises they can do at home, ya know, with their child, so those are two things that I can think of off the top of my head that we can educate the parents about.

P4: I really think it would be important to talk to families about what is a well-balanced nutritional meal. Provide opportunities for families to ya know, how to shop how to buy natural ingredients, and to know how to make a recipe, and how to um, have a meal made of fruits and vegetables, and maybe um, protein, or something like that and really teach them that, ya know there are ways to cook that way and eat that way that are not that expensive compared to what they might be doing which is running to fast food and buying things that are prepackaged that ya know you can just throw in the oven, I think there needs to be more education and resources and opportunities and parents and for the kids to just know how to eat better.

P5: What I think was really unique in the 4K perspective is that you're required by public instruction to have a certain amount of family outreach hours – like 87 per year, and that would vary, and you can count like newsletters, you could count sending home books as hours, but I really pushed having actual family involvement by having families come into the classroom often and have literacy as a connection or having physical activity.

P6: Also, nutrition. I think knowing what's healthy and what's not?...Like people thinking that the little Debbie oatmeal cookies are healthy because it has the word "oatmeal" in it which actually did happen once – not knowing that that is not healthy.

Emergent Theme 3: Facilitate Health and Wellness Opportunities

The interview questions that lead to the following themes are as follows:

Interview Question 7: What other types of additional programs could be implemented to help the problem of childhood obesity?

Interview Question 8: What ways do you or your school help educate parents about childhood obesity?

P1: One idea that I've had um, doesn't have to do with the elementary school, but would have to do with the middle school and early, early um, high school and I have talked to the guidance counselor at the middle school regarding maybe to have some type of um you know girl support group um and talk about trying to stay healthy talk about some great snacks to eat, I think that um, Obesity can, can cause so many

issues with kids, boys and girls, um, self-esteem issues, you know relationship issues, and you know probably you know school successes, I think it is tied to that (obesity).

I know that our PTO group, parent group, they've had speakers come in that meet once a month, and I know that they've had speakers come in who talk about nutrition, ya know childhood nutrition, um, I think that, ya know, again, just having a discussion with your kids about healthy snacks, (pauses), um, (another pause), but I'm not really sure of really any major programs besides the food service programs that we have implemented in our programs.

P2: At our school I would just say that newsletters, a lot of classroom teachers sent home newsletters, the newsletters would have a little "healthy corner" and little bits of wisdom about healthy ways in which they can live their lives. I think the school website maybe you could have a little healthy corner on the website on a weekly basis, whoever is the administrator of the website could give a little bits of encouragement on hints or food they could eat or activities that they could do that would lead to a healthy lifestyle, I think that in the school environment itself, since it's so universal in order to hit all children and their families um through classroom teachers or websites you would be able to get lots of information out to the kids.

P3: Well in past we do have activity clubs that I have run in the past as a specialized program that I termed "Funderson" um, (pause) where as we offered activity time after class um, and I haven't done that in a few years and it was very popular when that was going on and I thought that helped, um, give students, um, more activity time after school, um, again, the the nutritionist does come in and talk to the students about nutrition, and again physical education I like to incorporate as much health and nutrition that possible with my lessons.
Well, (long pause), again – dating back a few years, I held a family fitness night, um, at Washington, and I would invite the students to come back let's say after, like a 5-7 pm and we'd have stations with different, um, (deep breath) activities with them and the parents um, were asked to participate and those would be fun, because again, I should be doing them still those would be fun, a lot of positive feedback that came from that. We also check out pedometers throughout the year, and we see if students can reach their goal while at school – I know it's 10,000 steps a day, I know we give them a – pause – a 7,000 step goal while at school to see if they can get it, so the pedometers have been fun, so those are a couple other examples that I can think of.

P4: I think some exciting programs could be farm to school programs, like school gardens, I know community elementary has a pretty nice garden in their courtyard, and (blank) has volunteered to come in and talk to the classes, and I know that when a child is involved in growing their food, the children are much more likely to try that tomato or to eat that pepper, or something that it was made

with and make it an opportunity for that to be expanded and something that could be done more often.

Um, I had a student not that long ago that said she wished that they could learn to grow her own food and learn to then cook it in the kitchen and have it served to the kids, I think there'd be a tremendous interest on the part of the students to do that.

P5: One example, I'm thinking of is we called it Dining With Dads, the family sends in ingredients to make pizzas, because they needed it to be whole grain and had to explain to the kids why that would be considered a better choice besides cheese they had to pick out another topic – those were all things that families sent in.

P6: I would definitely think curriculum, as far as like, every ya know every um, grade should have ya know some sort of health curriculum as far as nutrition, um, built in, and then I would love to see a program, where like, kids could walk in the morning or after school, ya know?

Focus Group Interview

All participants were invited to partake in the focus group interview session. Two of the original six participants volunteered to participate, as well as another educator who was not interviewed during the One-on-One In-depth interviews.

Table 3

Themes Formulated from Focus Group Interview Data

Theme	% of Participants Discussing	Brief Discussion
1	100%	Provide Healthy Snack Option
2	100%	Advocate for Nutrition Curriculum

Emerging Theme 1: Provide Healthy Snack Option

The interview question that lead to the following theme was as follows:

Interview Question 2: As educators, what responsibilities do you feel you have as far as nutrition and physical education influences go?

P1: Yeah, I feel like if there classroom teacher, that we talk a lot about healthy snacks, I try to educate them as much as I can about ya know, the difference between ya know bringing a pop tart as opposed to string cheese, ya know, um, obviously at an elementary age, ya know their parents obviously have um, more influence than, I mean certainly they're not bringing those things in for snacks on their own, but um, at least to try to get some information to them as best I can, but yes I do feel like I have a little bit of responsibility in trying to guide them at least understanding and educating them on healthy snacks.

As well as their physical well-being yeah, we talk a lot about go outside and play. We kind of talk about their homework for this weekend is, go outside and play in the snow, or don't, um, ya know I try to um, not (pause), um, like try to guide them in making some good choices.

P7: I mean, at the beginning of the year we sent home a letter to parents, um, about our snack time, and our milk time, and we encourage them to pick healthy snacks – we give a list of healthy snacks, I think sometimes it comes down to unfortunately, healthy snacks tend to be more expensive. Healthy snacks tend to spoil faster – so healthy fruits and vegetables so, um, families, that are on a fixed income, healthy snacks are sometimes, not a doable choice for them because um, the whole ya know, these snacks with more sugar and preservatives are gonna last longer, they're gonna be cheaper and that's I mean that's something that I have to be aware of as a teacher too is that ya know not every household.

Ya know in terms of physical activity, in terms of, this year we chose, um, to really limit the amount of homework we were giving our students um, hoping that the idea would be that they spend more time with families and that they're outside playing – ya know? Go home, enjoy it. And ya know? (Pause) is every kid doing that? No. Um, but we're providing that opportunities to do those family things outside, or to get involved in, in, do things together other than stressing over.

P2: And then it gets to the education behind it, ya know are the parents educated in nutritional facts, and then you look at our curriculum, in the elementary school we really don't have a health curriculum, ya know that teaches nutritional facts ya know? I mean, do we?

There may be a false assumption that education has been done or that has been presented to children, and I don't really think it is anymore in our science curriculum, we don't have a DARE program anymore – we don't have a health curriculum that delivered at a universal level. I mean maybe that's something that we all need to go back and take a look at.

Emergent Theme 2: Advocate for Nutrition Curriculum

The interview question that lead to the following theme was as follows:

Interview Question 2: As educators, what responsibilities do you feel you have as far as nutrition and physical education influences go?

Interview Question 3: If you could create the ideal school, how could you go about creating a school where you could help eliminate obesity and create a healthy lifestyle at the same time?

P2: And then it gets to the education behind it, ya know are the parents educated in nutritional facts, and then you look at our curriculum, in the elementary school we really don't have a health curriculum, ya know that teaches nutritional facts ya know? I mean, do we?

There may be a false assumption that education has been done or that has been presented to children, and I don't really think it is anymore in our science curriculum, we don't have a DARE program anymore – we don't have a health curriculum that delivered at a universal level. I mean maybe that's something that we all need to go back and take a look at.

P1: Well, I think one way is um, which we already have kind of established, is to push it out even more is, I think, we have a school garden which I think is a really neat idea – a fifth grade teacher kind of spearheaded that, but I think it's a really neat concept um, it would be kind of fun to push that out to more 4 grade third grade, and get the kids to really understand how all that works and ya know I think it would provide a really good opportunity for the kids, and I think it's really neat for the fifth graders.
I think there's too, so many other countries, I mean you hear a lot about Finland, um, has such a unique educational system, and part of their whole thing is way less testing than we do, and require no homework and then that provides more activity for kids, of course as more education Participant II and Participant VII were talking about, putting healthy living back into our curriculum to help kids, and even parents – push out more to families, ya know, unfortunately I think a lot of the families that need the education won't come, but again, giving them incentives, to ya know, start looking at nutrition more for their kids, um.

P7: Ya know in terms of physical activity, in terms of, this year we chose, um, to really limit the amount of homework we were giving our students um, hoping that the idea would be that they spend more time with families and that they're outside playing – ya know? Go home, enjoy it. And ya know? (Pause) is every kid doing that? No. Um, but we're providing that opportunities to do those family things outside, or to get involved in, in, do things together other than stressing over.

Document Review

The document review included a review of the 2018 Minnesota K-12 Academic Standards in Physical Education and a document titled "Tips for Parents – Ideas to Help Young Children and Maintain a Healthy Weight" from the Centers for Disease Control and Prevention.

2018 Minnesota K-12 Academic Standards in Physical Education

Minnesota K-12 Academic Standards for Physical Education in 2018 provided the goal of its purpose. Document detailed standards and benchmarks of skills that students from different grade levels must show proficiency by:

1. Demonstrate competency in a variety of motor skills and movement patterns.
2. Apply Knowledge of concepts, principles, strategies and tactics to movement performance.
3. Demonstrate the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
4. Exhibit responsible personal and social behavior that respects self and others.
5. Recognize the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

For example, from a manipulative focus area and standard of "Demonstrating competency in a variety of motor skills and movement patterns," 3rd Grade level students must be able to:

- Kick a moving ball demonstrating a maturing patter.
- Punt while maintaining balance.
- Volley underhand with a partner using hands only, making multiple contacts while maintain balance.

- Volley using a two-hand overhead pattern with a partner making multiple contacts while maintaining balance.
- Strike using a short-handled implement, while controlling direction, and demonstrating correct body alignment relative to the target and striking skill.

A second example involves a focus are of engaging in physical activity and fitness knowledge. The standard reveals that the student demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness. A 5th grade level student must:

- Actively participate in small-sided games without teacher prompting.
- Apply the F.I.T.T. principle for cardiorespiratory fitness to personal behaviors and identify the need for warm-up and cool down when participating in these types of activities.
- Apply the F.I.T.T. principle for muscular endurance, muscular strength, and flexibility to personal behaviors, and identify the need for warm-up and cool down when participating in these types of activities.

United States Department of Agriculture: A Guide to Smart Snacks in School

The 'Guide to Smart Snacks in School' from the United States Department of Agriculture provided standards and facts that are designed to give children healthier options for snacking throughout the school day. For example, they provide the standards of what each snack must be when it comes to the following categories: calories, sodium, total fat, saturated fat, trans fat, and sugar. The document also discusses what things such as entrees are, and how each entrée must have a meat + whole grain-rich food, vegetable + meat, and so on and so forth so that children are

provided healthy snacks while in school. To teach children and parents how to make better decisions as well, they teach in the document, how to read nutrition labels better so that decisions to go about ingesting that type of food comes with more education.

Also provided are beverage standards, and what types of healthy drinks that students should be receiving throughout the school day. The drinks that are provided are milk, juice, diluted juice, low and no-calorie beverages. Provided are the daily recommendations for each level of students, such as elementary, middle, and high school students.

Summary

Findings of the study developed from the information achieved through the one-on-one in-depth interviews, focus group interview, and document review. Researcher interviewed six participants. Three emergent themes evolved in the study and two came from the focus group: (a) Increase in Absence and Decrease in Motivation, (b) Lack of Nutritional Guidance at Home, (c) Facilitate Health and Wellness Opportunities; the focus group findings found throughout the study were (a) Provide Healthy Snack Option, and (b) advocate for Nutrition Curriculum. Chapter four contained the findings of the research study. Chapter five contains the interpretations of the findings, literature comparisons, implications for educational leadership in childhood obesity, and recommendations for elementary education leadership in childhood obesity and future research.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, and RECOMMENDATIONS

This study explored implications for educational leaders on childhood obesity and absenteeism in elementary schools. Previous chapters discussed a review of obesity in the United States, childhood obesity in the nation's elementary schools, and of the literature on childhood obesity and absenteeism. This study demonstrated the importance of leaders' perspectives on what drives childhood obesity and different measures that educational leaders are taking to help curb the issue.

Obesity is a major public health crisis (Karnik et al 2012). Geier et al (2007) explains that that in addition to the medical and psychosocial consequences of being overweight, heavier children have greater risk for school absenteeism than normal-weight peers. As the rate of childhood obesity increases, parallel increases in school absenteeism are expected (Geier, 2007). Overweight children are at a greater risk for absenteeism than normal weight peers, and this may reflect an effort to avoid being teased, a wish to avoid physical education classes, or greater propensity to illness (Krukowski et al 2009).

A qualitative research design was used to explore elementary school leaders' perspectives of absenteeism and school performance as it relates to childhood obesity. This study was phenomenological in its approach and guided the research of experiences of elementary school leaders. Three research questions were used throughout the study:

1. How does childhood obesity affect absenteeism?
2. What factors contribute to childhood obesity in a school setting?
3. What should school administrators do to address obesity issues in elementary schools?

One-on-one interviews, a focus group interview, and a review of documents were the components of the data collection method. Thematic coding was the data analysis method. Three themes emerged from the study: (1) negative health consequences, (2) lack of parental education on nutrition, and (3) provide healthy living opportunities.

Increase in Absence and Decrease in Motivation

Participants stated that increase in absences and decrease in motivation were a major reason that obese children missed school. This included having to go to the school nurse during class time, going to doctors appointments for health issues related to obesity, students have less motivation to participate during physical education classes, and being absent from school more often was prevalent because of conditions related to obesity. Li (2012) explains that the odds of missing school two days or more per school month were doubled and quadrupled respectively, among overweight and obese children compared with children of normal weight.

Lack of Nutritional Guidance at Home

Lack of nutritional guidance at home was another vital issue in childhood obesity and absenteeism and school performance. Participants explained that they hardly have any solid nutrition curriculum for students – let alone solid nutrition tips for parents. Therefore, more education must be given by parents of the elementary students to minimize obesity amongst children.

Facilitate Health and Wellness Opportunities

Participants indicated that facilitating health and wellness opportunities for students and families was essential in creating an environment that helps eliminate obesity. Several participants indicated that giving students and families programs and

nutritional oriented "family nights" was useful in helping educate families when it comes to eating healthy foods and being physically fit. Healthy eating opportunities as well as activities that increase physical fitness help provide opportunities for students and families to live healthier lifestyles.

Conclusions

After interviewing participants and conducting a review of documents, researcher draws the following conclusions from this study:

- Participants suggested that educating parents on nutrition and physical activity should be a high priority.
- Participants felt that elementary children do not feel motivated enough in physical education.
- A greater focus on parent-teacher communication could enhance the reduction or prevention of absenteeism as it relates to childhood obesity.
- Constant evaluation of the health curriculum should be a priority to ensure children and parents are getting the latest and most accurate information.

Additional research is necessary in more diverse environments to determine more accurately if childhood obesity causes an increase in absenteeism and a decline in school performance. Findings from this study are current with findings in the literature.

Implications from the Study

The elementary educators who participated in this study indicated an increase in absence and decrease in motivation, lack of nutritional guidance at home, and facilitate health and wellness opportunities for students were all factors that affected obesity and absenteeism amongst students. These themes generated from the data create several implications for practice.

Implications for Practice

Conclusion 1: Participants suggested that educating parents on nutrition and physical activity should be a high priority.

Implication: Elementary schools and its students may benefit from placing a priority on not only educating students on nutrition, but parents as well. More education for parents could help students receive better food and live a healthier lifestyle.

Conclusion 2: Participants felt that elementary children do not feel motivated enough in physical education.

Implication: When children walk around with extra weight, according to some participants, some of those students will be less inclined to participate during physical education classes. School leaders may want to consider that it may not just be health issues that keep children who struggle with childhood obesity out of school, but also emotional issues and body image issues that those children have that make them less inclined to participate.

Conclusion 3: greater focus on parent-teacher communication could enhance the reduction or prevention of absenteeism as it relates to childhood obesity.

Implication: Communication between school leaders and parents could be one of the key factors of contributing to helping the childhood obesity epidemic. Participants posited that parents need to know what a well-balanced nutritional meal is and that it starts with the parents. If the parents are not educated in nutrition, students will never be able to make and consume healthy foods.

Conclusion 4: Constant evaluation of the health curriculum should be a priority to ensure children and parents are getting the latest and most accurate information.

Implication: Participants made it known that while there is a health curriculum in place, it is not what it should be. It could benefit the issue of childhood obesity if the current health curriculum was constantly evaluated and constantly changed when new nutrition research comes out. Not only on the nutrition side, but the physical education curriculum must be continually evaluated to make sure that students are held to good standards.

Recommendations for Future Research

This study explored educational leaders' perspectives on childhood obesity and its effect on absenteeism and school performance and possible measures taken in the future to combat this. This study demonstrated the importance of leaders' perspectives on childhood obesity and absenteeism in elementary classrooms, the nutrition education that is given to students and their families, and possible measures that should be taken in the future to combat childhood obesity in the nation's elementary schools.

Additional research is necessary in schools with much greater populations and a greater diversity of educators. Leaders' perspectives on childhood obesity and absenteeism in private elementary schools in the United States also merit studies as well. Examination of obesity not only at the elementary level, but also at the middle and high school levels, and how those students' absenteeism and school performance are impacted by obesity should also be considered. An investigation on the relationship of childhood obesity and absenteeism in other countries around the world would substantially contribute and add great insight to the current literature. Finally, attention is necessary to determine what how health curriculums in elementary schools around the United States contribute to combating childhood obesity.

References

Adams, G, Schvaneveldt, J. (1991). *Understanding Research Methods – Second Edition*. White Plains, NY: Longman Publishing Group.

Allegrante, J, Kristjansson, A, Sigfusdottir, I. (2010). Health Behavior and Academic Achievement Among Adolescents: The Relative Contribution of Dietary Habits, Physical

Activity, Body Mass Index, and Self-Esteem. *Health Education and Behavior*. 37(1), 51-64.

Amani, R. Gill, T. Shiftworking, Nutrition, and Obesity: Implications for Workforce Health – A Systematic Review. *Asia Pacific Journal of Clinical Nutrition*.

Berg, B. (1989). *Qualitative Research Methods for the Social Sciences – Fifth Edition*. Boston, MA: Pearson Education, Inc.

Bouchard, L, Drapeau, V, Provencher, V, Lemieux, S, Chagnon, Y, Rice, T, Rao, D, Vohl, M, Tremblay, A, Bouchard, C, Perusse, L. (2004). Neuromedin B: A Strong Candidate Gene Linking Eating Behaviors and Susceptibility of Obesity. *American Journal of Clinical Nutrition*. 80(6), 1478-1486.

Boumtje, P, Huang, C, Lee, J, Lin, B. (2005). Dietary Habits, Demographics, and the Development of Overweight and Obesity Among Children in the United States. *Science Direct*. 30, 115-128.

Broussard, B, Sugarman, J, Bachman-Carter, K, Booth, K, Stephenson, L, Strauss, K, Gohdes, D. Toward Comprehensive Obesity Prevention Programs in Native American Communities. *Obesity: A Journal*. 3(2), 289s-297s.

Bray, G. (1990). Obesity: Historical Development of Scientific and Cultural Ideas. *International Journal of Obesity*. 14(11), 909-926.

Bray, G. (1998). Obesity: A Time Bomb to be Defused. *The Lancet*. 352.

Bursac, Z, Krukowski, R, Perez, A, Phillips, M, Raczynski, J, West, D. (2009) Overweight Children, Weight-based teasing and Academic Performance. *International Journal of Pediatric Obesity*. 4, 274-280.

Byrne, M. (2001). Understanding Life Experiences Through a Phenomenological Approach to Research. *Research Corner*. 73(4), 830.

Caballero, B. (2007). The Global Epidemic of Obesity: An Overview. *Epidemiologic Reviews*. 29, 1-5.

Carnell, S, Wardle, J. (2008). Appetite and Adiposity in Children: Evidence for a Behavioral Susceptibility Theory of Obesity. *American Journal of Clinical Nutrition*. 88(1), 22-29.

Cawley, J. (2010). The Economics of Childhood Obesity. *Health Affairs*. 29(3), 364-371.

Chenail, R. (2011). Interviewing the Investigator: Strategies for Addressing Instrumentation and Researcher Bias Concerns in Qualitative Research. *The Qualitative Report*. 16(1), 255-262.

Clark, K, Parr, R, Castelli, W. (1988). *Evaluation and Management of Eating Disorders: Anorexia, Bulimia, and Obesity*.

Collier, R. (2010). United States Obesity Rates Continue to Rise. *Canadian Medical Association Journal*. 182(12).

Corti, L, Day, A, Backhouse, G. (2000). Confidentiality and Informed Consent: Issues for Consideration in the Preservation and Provision of Access to Qualitative Data Archives. *Forum: Qualitative Social Research – Socialforschung*. 3(1).

Coyne, I. (1997). Sampling in Qualitative Research. Purposeful and Theoretical Sampling; Merging or Clear Boundaries? *Journal of Advanced Nursing*. 26, 623-630.

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. Thousand Oaks, CA: SAGE Publications, Inc.

Crosnoe, R. (2007). Gender, Obesity, and Education. *Sociology of Education*. 80(3), 241-260.

Daniels, D. (2008). Examining Attendance, Academic Performance, and Behavior in Obese Adolescents. *The Journal of School Nursing*. 24(6), 379-387.

Datar, A, Magnabosco, J, Sturm, R. (2004). Childhood Overweight and Academic Performance: National Study of Kindergarteners and First graders. *Obesity Research*. 12(1), 58-68.

Davis, M, Grace-Cleveland, B, Hassink, S, Johnson, R, Paradis, G, Resnicow, K. (2007). Recommendations for Prevention of Childhood Obesity.

Denzin, N, Lincoln, Y. (1998). *Connecting and Interpreting Qualitative Matierials*. Thousand Oaks, CA: SAGE Publications, Inc.

De Fede, A, Li, Y, Lyn, R, Raychowdhury, S, Zhang, J. (2012). Association Between Increased BMI and Severe School Absenteeism Among US Children and Adolescents: Findings From a National Survey, 2005-2008. *International Journal of Obesity*. 36, 517-523.

Dockray, S, Susman, E, Dorn, L. (2009). Depression, Cortisol Reactivity, and Obesity in Childhood Adolescence. *Journal of Adolescent Health*. 45, 344-350.

Englander, M. (2012). The Interview: Data Collection in Descriptive Phenomenological Human Scientific Research. *Journal of Phenomenological Psychology*. 43, 13-35.

Farias, M, Cuevas, A, Rodriguez, F. (2011). Set-Point Theory and Obesity. *Metabolic Syndrome and Related Disorders*. 9(2), 85-89.

Flegal, K, Carroll, M, Kuczmarski, R, Johnson, C. (1998). Overweight and Obesity in the United States: Prevalence and Trends – 1960-1994. *International Journal of Obesity*. 22, 39-47.

Flodmark, C, Lissau, I, Moreno, L, Pietrobelli, A, Widhalm, K. (2004). New Insights into the Field of Children and Adolescent's Obesity: the European Perspective. *International Journal of Obesity*. 28, 1189-1196.

Florence, M, Asbridge, M, Veugelers, P. (2008). Diet Quality and Academic Performance. *Journal of School Health*. 78(4), 209-215.

Flores, G, Lin, H. (2013). Factors Predicting Severe Childhood Obesity in Kindergarteners. *International Journal of Obesity*. 37, 31-39.

Fung, J. (2016). *The Obesity Code: Unlocking the Secrets of Weight Loss*. Vancouver, Canada: Greystone Books, Ltd.

Goran, M, Reynolds, K, Lindquist, C. (1999). Role of Physical Activity in the Prevention of Obesity in Children. *International Journal of Obesity*. 23(3), S18-S33.

Guillalme, M. (1999). Defining Obesity in Childhood: Current Practice. *American Society for Clinical Nutrition.* 70(1), 1265-1305.

Hassink, S. (2007). *Pediatric Obesity: Prevention, Intervention, and Treatment Strategies for Primary Care*. Elk Grove Village, IL: American Academy of Pediatrics.

Hoepfl, M. (1997). Choosing Qualitative Research: A Primer for Technology Education Researchers. *Journal of Technology Education*. 9(1).

Jancin, B. (2003). New Data Challenge Set Point Theory of Obesity: Weight Returns due to Inactivity. *Family Practice News*. 33(18), P. 19.

Johnson, B. Christensen, L. (2012). *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. Thousand Oaks, CA: SAGE Publications, Inc.

Kaaks, R, Lukanova, A, Kurzer, M. (2002). Obesity, Endogenous Hormones, and Endometrial Cancer Risk: A Synthetic Review. *Cancer Epidemiology, Biomarkers and Prevention*. 11, 1531-1543.

Kanekar, A, Karnik, S. (2012). Childhood Obesity: A Global Public Health Crisis. *International Journal of Preventative Medicine*. 3(1), 1-7.

Kearney, C. (2008). School Absenteeism and School Refusal Behavior in Youth: A Contemporary Review. *Clinical Psychology Review*. 28, 451-471.

Lavie, C, Schutter, A, Parto, P, Jahangir, E, Kokkinos, P, Ortega, F, Arena, R, Milani, R. (2016). Obesity and Prevalence of Cardiovascular Diseases and Prognosis – The Obesity Paradox Updated. *Progress in Cardiovascular Diseases*. 58, 537-547.

Leatherdale, S, Wong, S. (2008). Modifiable Characteristics Associated with Sedentary Behaviors Among Youth. *International Journal of Pediatric Obesity*. 3, 93-101.

Llewellyn, C, Wardle, J. (2015). Behavioral Susceptibility to Obesity: Gene-Environment Interplay in the Development of Weight. *Journal of Physiology and Behavior*. 152, 494-501.

Lustig, R. (2013). *Fat Chance: Beating the Odds Against Sugar, Processed Food, Obesity, and Disease*. New York, NY: Penguin Group.

Magnusson, J. (2005). Childhood Obesity: Diagnosis, Prevalence, and Implications for Health. *Nursing and Allied Health Database*. 78(2), 66-68.

Marks, D. (2015). Homeostatic Theory of Obesity. *Health Psychology Open*.

Marshall, C, Rossman, G. (1999). *Designing Qualitative Research – 3rd Edition*. Thousand Oaks, CA: SAGE Publications, Inc.

Mitrevska, N, Eleftheriadou, V, Guarneri, F. (2012). Quality of Life in Vitiligo Patients. *Dermatologic Therapy*. 25, S28-S31.

Mond, J, Stich, H, Hay, P, Kraemer, A, Baune, E. (2007). Associations Between Obesity and Developmental Functioning in Pre-School Children: A Population-Based Study. *International Journal of Obesity*. 31, 1068-1073.

Northouse, P. (2013). *Leadership: Theory and Practice*. Thousand Oaks, CA: SAGE Publications, Inc.

Ogden, C, Carroll, M, Kit, B, Flegal, K. (2012). Prevalence of Obesity in the United States, 2009-2010. *National Center for Health Statistics*. 82.

Ogden, C, Yanovski, S, Carroll, M, Flegal, K. (2007). The Epidemiology of Obesity. *Gastroenterology*. 132, 2087-2102.

Padilla-Diaz. (2015). Phenomenology in Educational Qualitative Research: Philosophy as Science or Philosophical Science? *International Journal of Educational Excellence*. 1(2), 101-110.

Palinkas, L, Horwitz, S, Green, C, Wisdom, J, Duan, N, Hoagwood, K. (2013). Purposeful Sampling for Qualitative Data Collection Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*. DOI 10.1007/s10488-013-0528-y.

Pan, L, Park, S, Sherry, B. (2013). The Association of Obesity and School Absenteeism Attributed to Illness or Injury Among Adolescents in the United States, 2009. *Society for Adolescent Health and Medicine*. 52, 64-69.

Phillips, C. (2016). Metabolic Healthy Obesity: Personalized and Public Health Implications. *Trends in Endocrinology and Metabolism*. 27(4), 189-191.

Pulgaron, E. (2013). Childhood Obesity: A Review of Increased Risk for Physical and Psychological Comorbidities. *Clinical Therapeutics*. 35(1).

Sato, T, Ida, T, Nakamura, Y, Shiimura, Y, Kangawa, K, Kojima, M. (2014). Physiological Roles of Ghrelin on Obesity. *Obesity Research and Clinical Practice*. 8(5), e405-e413.

Smith, J. (2011). Obesity Alone Increased CHD Death Risk in Men: Study Shows 60% Higher Risk Independent of Factors such as Hypertension, Hypercholestrolemia. *Family Practice News*. 41.4, 36.

Steinle, N, Hsueh, W, Snitker, S, Pollin, T, Sakul, H, St. Jean, P, Bell, C, Mitchell, B, Shuldiner, A. (2002). Eating Behavior in the Older Amish: Heritability Analysis and a Genome-Wide Linkage Analysis. *American Journal of Clinical Nutrition*. 75(6), 1098-1106.

Story, M. (1999). School Based Approaches for Preventing and Treating Obesity. *International Journal of Obesity*. 22(3), S43-S51.

Story, M, Evans, M, Fabsitz, R, Clay, T, Rock B, Broussard, B. (1999). The Epidemic of Obesity in American Indian Communities and the Need for Childhood Obesity Prevention Programs. *The American Journal of Clinical Nutrition*. 69(4), 747S-754S.

Taras, H, Potts-Datema, W. (2005). Obesity and Student Performance at School. *Journal of School Health*. 75(8), 291-295.

Taubes, G. (2012). Treat Obesity as Physiology, Not Physics. Nature – London. 155.

Veugelers, P, Wang, F. (2008). Self-Esteem and Cognitive Development in the Era of the Childhood Obesity Epidemic. *International Association for the Study of Obesity*. 9, 615-623.

Wang, F, Veugelers, P. Self-Esteem and Cognitive Development in the Era of the Childhood Obesity Epidemic. *International Association for the Study of Obesity*. 9, 615-623.

Weinsier, R, Nagy, T, Hunter, G, Darnell, B, Hensrud, D, Weiss, H. (2000). Do Adaptive Changes in Metabolic Rate Favor Weight Regain in Weight-Reduced Individuals? An Examination of the Set-Point Theory. *The American Journal of Clinical Nutrition*. 72, 1088-1094.

Zappalla, F. (2010). Childhood Obesity and Future Cardiac Risk. *Pediatric Health*. 4(3), 255-265.

APPENDICES

APPENDIX A

RESEARCH STUDY LETTER OF INVITATION

Hello,

Hope this interview finds you doing well, and I hope to not take up too much of your time. My name is Kyle Johnson. I was recommended that I reach out to you and maybe interview you for my capstone at Winona State if you were at all interested. My title is "Childhood Obesity and Absenteeism: Leaders' Perspectives" which is just exploring the possible correlation between obesity and absenteeism and a decline in school performance.

What I wanted to ask, is if it were possible to maybe sit down for 20-25 minutes with you at the most face-to-face and just ask you some questions about this in how you've seen this issue in elementary schools (if you have at all). I thought it would be great to have a physical education teacher, a principal, a couple of teachers, a psychologist, and maybe a few other positions. Obviously, all information would be completely confidential - pseudonyms would be used for both your name and the school and the information would only be used to complete my capstone - nothing else. I have a current interview protocol that states some of my research questions if you wanted to take a look and there is a confidentiality agreement as well.

If you are interested in helping out and letting me interview you face to face like this, please let me know! Also, I was hoping this could be done probably around the beginning of March if there was a time that worked in your schedule. If you want to help out - please let me know and we can come up with a date and time down the road.

Thank you for your time, and please let me know if you have any other questions about his as well!

Much appreciated.

Kyle Johnson
Strength & Conditioning Graduate Assistant Coach
President, Graduate Student Research Club
C: 608-436-4082
E: kymjohnson09@winona.edu

APPENDIX B

RESEARCH STUDY ONE-ON-ONE INTERVIEW PROTOCOL

Community and Location: _____ Date/Time _____ No. of People Attending_____

Researcher Conducting Session: Kyle Johnson

My name is Kyle Johnson and I will be facilitating this focus interview group. The goal of this interview is to discover school leadership perspectives on childhood obesity and its effect on school absenteeism. As people that see these students on an almost daily basis, I greatly value your opinion and insights on this issue. Ultimately, this study will look to shed light on if students that suffer from obesity miss school more than their fellow classmates, and how obesity can affect school performance.

I am a Sports Management Masters student at Winona State University and I work as a strength and conditioning coach in the Integrated Wellness Center on campus working with the men's and women's basketball teams, as well as the baseball team. This is a topic that is very important in this field something I would like to discover more about.

You were selected as a participant because of your willingness to participate in this interview. One focus group will be conducted with three different participants at a later date.

Prior to the interview, you were sent a consent form (one to sign and return and one to keep) prior to the session today. The interview will take approximately 20-30 minutes and will follow a designed interview protocol.

Did you bring your consent letter? If not, I have one here for you. (copy is given). Do you have any questions of your own before you begin?

If there are no further questions, this is where we will begin the interview.

[Note: the researcher will use phrases such as "Tell me more", "Could you give me an example?", "Could you explain that?" as prompts to elicit more conversation about the question when needed.]

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1. To get started, let's introduce ourselves. In your introduction please tell us who you are, the community where you currently live, your place of work, and what you do for work.

    a. If you could, please tell us your name and the community you currently live in.
    b. How long have you been in the role you are in at the school?
    c. Have you held any other positions at the school that you are currently working at?

2. How does childhood obesity affect absenteeism and school performance?

    a. If you could, discuss whether you think childhood obesity is a problem in this school?
    b. Discuss absenteeism issues in the school and whether obesity is a problem associated with school absences.
    c. How do you describe the meetings that take place between school nutritionists, counselors, school psychologists regarding childhood obesity?

3. What factors contribute to childhood obesity in a school setting?

    a. What do you consider as factors contributing to childhood obesity?
    b. What steps are you taking to address childhood obesity in the school setting?
    c. Describe what program initiatives have been implemented to address childhood obesity.

4. What are school administrator's recommendations for fighting childhood obesity?
    a. What types of programs would you say could help in the issue of childhood obesity?
    b. What ways does your school educate parents in regards to childhood obesity?
    c. What factors has your school discussed for promoting healthy lifestyles among young children?

*Some information taken from https://agecon.unl.edu/documents/2369805/16840067/Interview%20Protocol%20Initial%20survey.pdf/bbfc2b0b-2246-4855-a5ef-cd705e903020

APPENDIX C

FOCUS GROUP INTERVIEW PROTOCOL

My name is Kyle Johnson, and I will be facilitating this focus interview group today. The goal of this focus interview is to discover school leadership perspectives on childhood obesity and its' effect on school absenteeism. As people that see these students on a daily basis, I greatly value

your opinion and insights on this issue. Ultimately, this study will to see if students that suffer from obesity miss school more than their fellow classmates and how obesity can affect school performance.

I am a Sports Management Masters student at Winona State University and I work as strength and conditioning coach in the Integrated Wellness Center on campus, working with the men's and women's basketball teams, as well as the baseball team.

This is a topic that is very important in this field and something that I would like to discover more about. You were all selected as participants because of your willingness to participate in this focus interview. Prior to the interview you were all given a consent form, we are good to go on that.

Do any of you have questions before we begin?

I. Could you discuss obesity as a problem in your schools?

II. What factors contribute to childhood obesity in a school setting?

III. If you could create the ideal school, how would you try to eliminate obesity and create healthy lifestyles amongst students?

APPENDIX D

CONSENT FORM

Master's Candidate

Winona State University

Childhood Obesity and Absenteeism: Leaders' Perspectives

You are invited to participate in a research study designed to look at the relationship between childhood obesity and absenteeism/school performance. We hope to learn why obesity affects

performance in school and why it causes absenteeism**.** There are no appreciable risks or benefits from participating in this study.

The study will begin in February of 2018, and end May of 2018. We estimate participating in the study will require 20-25 minutes of your time. If you decide to participate, you will be asked to answer questions from the principal investigator on the subject of childhood obesity and absenteeism in schools.

Data collected during the course of this study will be restricted to everyone except for the investigator. If the results of this study are published or presented, no names will be associated with the data cited. Any information that is obtained in connection with this study and that can be identified with you will be disclosed only with your permission.

For questions about this research project, contact Kyle Johnson, the principal investigator, who can be reached at 608.436.4082 and also Dr. Barbara Holmes, the faculty advisor, at 507.457.5651.**.** For question about research subjects' rights or research-related injuries, contact the Human Protections Administrator Brett Ayers at 507-457-5519.

Participation in this study is voluntary. A decision not to participate will involve no penalty or loss of benefits to which you are entitled. You may discontinue participation at any time without penalty or loss of benefits. A decision not to participate or withdraw will not affect your current or future relationship with Winona State University. You will be offered a copy of this form to keep.

AGREEMENT TO PARTICIPATE

You are making a decision whether or not to participate in the study described above. Participation is voluntary. You may withdraw at any time without prejudice after signing this form. Your signature indicates that you have read the information provided above, had an opportunity to ask questions about the study, and have decided to participate.

Signature	Date
Signature of parent, guardian, authorized representative (if appropriate)	Date
Signature of witness (if appropriate)	Date
Signature of Principal Investigator	Date

VITA

Kyle Johnson
KyleMurphyJohnson@gmail.com
608.436.4082

Qualifications

- Strong background in strength and conditioning working with tremendous coaches and gained invaluable experience.
- Young and very identifiable to a collegiate athlete. I know how to communicate with athletes in a good manner, and can help them reach their potential and goals.

- A former college athlete (baseball) that knows what it is like to work in a team setting.
- Certified Strength and Conditioning Specialist

Experience

- Graduate Assistant at Winona State University in Minnesota (Summer 2016 – Present)
    - Responsible for the implementation of workouts for both men's and women's basketball and baseball teams.
    - Assist with football.
- Intern at the University of Virginia (Summer 2017).
    - Assisted with both men's and women's basketball team throughout 8 weeks of summer training.
- Paid Intern at the University of North Carolina – Chapel Hill (2015-2016 School year)
    - Took a lot of responsibility with all Olympic sports, the main teams I worked with being baseball, men's lacrosse, women's lacrosse, volleyball, men's tennis, field hockey, and men's golf teams.
    - Implemented workouts for the freshman of both volleyball and women's lacrosse and took them through their daily workouts.
- Intern at University of Wisconsin (Summer 2015)
    - Assisted in daily workouts with both men's and women's basketball, and men's and women's hockey. Also helped with their pro hockey players.

Education

Winona State University – Pursuing a Master's Degree in Educational Leadership (May, 2018)

Winona State University – History Degree