Examination of Georgia Public School Wellness Policies and the Mandated Implementation Requirements

A Dissertation submitted
to the Graduate School
Valdosta State University

in partial fulfillment of requirements
for the degree of

DOCTOR OF EDUCATION

in Educational Leadership

in the Department of Curriculum, Leadership, and Technology
of the Dewar College of Education and Human Services

December 2017

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ABSTRACT

Childhood obesity is a national epidemic and continues to impact America. In 2004 House Bill 108-265 was mandated by the national government. The House Bill required school districts to create and implement school wellness polices by the 2006 school year. The intent of this study was to find if Georgia public schools are meeting the national requirements and the impediments school leaders face in successful implementation. Furthermore, the study attempted to determine if geographical location impacted successful implementation. A quantitative research design was used to conduct a two phase study. Phase 1 used a quantitative approach to analyze 129 Georgia public school wellness policies using the University of Connecticut Rudd Center for Food Policy and Obesity online software WellSAT 2.0. An analysis of variance was also conducted in Phase 1 to determine if differences lie between geographical locations. Phase 2 used a survey research design. An online survey was sent to Georgia superintendents regarding impediments of successful wellness policy implementation. In conclusion, Georgia school wellness policies need improvement. There is an opportunity for educational leaders to review the mandated policy requirements and study impediments to provide schools with needed resources and support to successfully implement school wellness policies.

TABLE OF CONTENTS

LIST OF TABLES

ACKNOWLEDGEMENTS

Thank you to my committee: Dr. Michael Bochenko, Dr. Nicole Gibson, Dr. Eugene Asola and Dr. Jiri Stelzer. I will forever be grateful for your patience and kindness during this journey. Dr. Bochenko, thank you for serving as my chair. Your guidance and helpfulness are the reasons I completed this dissertation. Dr. Gibson, thank you for your research leadership. Without your support I would have been lost. Again, thank you for being the best, supportive committee. You are the reason I will be called "Dr. Bennett!"

DEDICATION

To my three favorite boys for all your devotion and sacrifice. My husband Stacy, for believing in me always. When I doubted you pushed me on. You are my rock, my solid ground. Your love is unmeasurable and I am forever grateful for you.

For my two sons, Brody and Carson, this journey is for you. I believe in education. I love learning. I pray this process has instilled the same love in you. You watched as I conquered late nights and setbacks. It was not easy, but it was worth it. Nelson Mandela said "Education is the most powerful weapon you can use to change the world." I hope you learn, love, and change the world. I believe in YOU. Thank you for believing in ME!

Chapter I

INTRODUCTION

Childhood obesity is a national epidemic and continues to impact America. The epidemic has remained a national issue in the United States for over three decades. The Center for Disease Control and Prevention (2015) reported the high percentage of obese children has held stable for roughly a decade and the rates have more than doubled since the 1980s. According to Dodson, Fleming, Boehmer, Haire-Joshua, Luke and Bownson (2009), as of the early 2000s roughly 17% of children ages 2 to 19 were obese. Obesity in children ages 6 to 11 in the United States increased from 7% in 1980 to 18% in 2012 and adolescent (ages 12 to 19) obesity rates increased from 5% to 21% from 1980 to 2012. As of 2012 more than one-third of American children were considered obese (Childhood Obesity Facts, 2015). The epidemic is still impacting children's health, education, and mental well-being.

An escalation of obese and unhealthy children in our country has resulted in an increase of nutrition awareness in school systems, as well as the decrease in standardized testing scores and academic achievement. An experimental study by Asbridge, Florence, and Veugelers (2008) focused on the positive impact a quality diet can have on students' academics and overall health quality. Many studies have noted academic success and quality health habits are connected. Studies by Judge and Jahns (2007) and Yanover and Thompson (2008), indicated students who are unhealthy or under nourished may suffer academically. Asbridge, Florence, and Veugelers' (2008) experimental study showed students who eat poor diet quality foods at lunch may not be succeeding academically.

Healthy diets may help students succeed academically, yet American schools are not be placing student wellness as a priority.

The consequences of childhood obesity for a nation can be vast. Gollust, Niederdeppe, and Barry (2013) noted longevity, medical costs, and bullying among children are all consequences of the obesity epidemic. Diseases such as neurological, pulmonary, endocrine issues, orthopedic and gastroenterological conditions can stem from childhood obesity (Gollust, Niederdeppe & Barry, 2013). These diseases, as well as issues such as high blood pressure, cholesterol, and diabetes can be a result of childhood obesity and cause an increase in medical care costs for many parents and taxpayers (Gollust, Niederdeppe & Barry, 2013).

The issue of childhood obesity has been addressed by health advocates, medical experts and lawmakers, yet there has not been a significant decline in the childhood obesity rate. In the early 2000s, lawmakers turned to the education department to aid in the fight. Since 2004, childhood obesity has been addressed through House Bill 108-265. The bill requires all school systems to develop and implement wellness policies. The policies focus on teaching nutrition and wellness and monitoring poor diet quality foods offered at school. In 2010, The Healthy, Hungry-Free Kids Act was implemented in order to strengthen the laws regulating wellness policies. This bill requires schools to develop and follow local wellness policies (LWP) and meet rigorous standards. In addition to the required wellness policies, national laws regulating student wellness are becoming more frequent. The increase of laws could be due to the large amount of time children spend in schools. Students' diet and knowledge of health and nutrition can be controlled through the school environment. According to Desilver (2014), a researcher

for the Pew Research Center, an average American student spends roughly 1,025 hours a year in school. Many students eat two meals a day at school and receive much of their caloric intake during this time. When schools serve high calorie meals and market unhealthy food to students, they may be contributing to the obesity epidemic. Schools may further propagate to the nation's childhood obesity issue by not meeting the requirements set forth in House Bill 108-265.

Statement of the Problem

The United States Department of Education passed regulations for local wellness policies to be implemented by all local education agencies (public school systems) by the 2006-2007 school year (Agron, Berends, Ellis, & Gonzalez, 2010). The Child Nutrition and Women, Infants, and Children Reauthorization Act of 2004 requires local education agencies participating in the National School Lunch Program to create, maintain, and assess a wellness policy addressing five areas of health and nutrition (Gaines, Lonis-Shumate, Gropper, 2011). The Act ensures students are receiving affordable, nutritious breakfast, lunch and snacks. The federal law requires each local school wellness policy to include food regulation, establish goals for nutrition promotion, share information with the public, create a plan to measure implementation, and involve stakeholders in the creation of the policy (Wellness Programs, 2006). The local education agency must assess the policy every 3 years and share the assessment with the public. In 2010, Congress passed the Healthy, Hunger-Free Kids Act strengthening local wellness policy requirements and adding more stringent categories. In addition to the previous requirements set forth by The Child Nutrition and Women, Infants, and Children Reauthorization Act of 2004, the local education agencies must address nutrition

education, physical activity, and measures for evaluation of the policy. The legislation is intended to increase health and wellness in children and decrease the rapid growth of childhood obesity. The act is reviewed and reauthorized by Congress every 5 years (Wellness Programs, 2006).

Wellness policies have been responsible for a dramatic increase in fresh produce, wheat products, and lower calorie meals. They have decreased the amount of candy and sugar foods sold within schools (Schwartz, Henderson, Falbe, Novak, Wharton, Long, & Fiore, 2012). Though there has been some success, it is unclear if wellness policies have resulted in significant change in student health and wellness or if all school systems are abiding by the requirements. Regardless of wellness policy requirements the obesity rate is not declining (The Center for Disease Control and Prevention, 2015) and the reasons for the lack of decline are unknown. The lack of decline in the obesity rate of school-aged children indicates the wellness policies are not successful. The absence of success in the state of Georgia may be due to the lack of alignment between local wellness policies and national wellness policy requirements, which in turn, stems from impediments to policy implementation. Though the regulations have been mandated for over a decade, neither the national government nor the Georgia Department of Education (GaDOE) have required a mandated evaluation tool for use by Georgia school districts; therefore, determining alignment can be difficult. Challenges lie in assessing if alignment issues and impediments are consistent throughout the state or are central to certain geographical areas of the state.

This study added to the literature by determining if Georgia public school districts' written wellness policies meet national requirements. This study sought to find

differences in implementation at four different geographical areas of the state. The study attempted to find weaknesses of successful wellness policy implementation and aid educational leaders in determining impediments impacting successful implementation of wellness policies.

Purpose

This study examined how Georgia public schools' policies compare to the national wellness policies, the extent different geographical regions implement the policies, and the perceptions of wellness coordinators regarding challenges of implementation. The purpose was to discover if Georgia public schools were meeting the national requirements and what impediments were impacting successful implementation. This was determined through an examination of Georgia public school policies and a survey of data from district superintendents and wellness policy coordinators. This study provided insight to executed standards of the mandated policies and challenges school districts face in implementation.

Research Questions

The research questions of this study were answered using a quantitative approach. Data were collected in two phases. Phase 1 is an examination of a sample of policies using the online software WellSAT 2.0 and Phase 2 is a study of survey responses from school district superintendents and school district wellness coordinators. The United States Department of Education mandated the wellness policy regulations in hopes of fighting childhood obesity yet, the obesity rate has not significantly declined. The following research questions were used to determine how Georgia public schools compare to the national wellness policies and if implementation differs by geographical

areas. Furthermore the research questions were used to determine perceptions of superintendents and wellness coordinators regarding challenges of implementation. The research questions directed the study and provided possible factors contributing to the childhood obesity epidemic.

RQ1: Is there a significant difference in the extent Georgia public school wellness policies compare to the national wellness policy requirements?

RQ2: Do geographical regions of Georgia differ as to the implementation of the national wellness policy requirements?

RQ3: What are the perceptions of district wellness coordinators regarding challenges facing districts in implementing the required wellness policy?

Significance of the Study

The significance of the study is multifaceted. The study provided insight as to which national wellness standards were not being met by Georgia public schools and if the void in the implementation of standards were specific to Georgia geographical regions. The information gained from this study determined a need for closer examination of particular standards by educational leaders and a focus on more specific resources placed in certain school systems to create stronger wellness programs. Schools remediate academic programs to better prepare students for career and college. Leaders collect and analyze data to inform academic decisions through standardized tests and academic data reporting. Gaining information though this study serves a similar purpose and allows for educational leaders to remediate wellness programs and prepare students for healthy lifestyles. The findings and the significance of the study were reported in Chapters 4 and 5.

Conceptual Framework

The conceptual framework for this study is rooted in the theoretical framework of McLeroy, Bibeau, Steckler, and Glanz (1988). McLeroy et al. (1988) developed an ecological model in public health determining the relationship between policy and public awareness of social issues. The model reflects a continuous relationship between social concerns, community, and policy. The model demonstrates how policy is developed through social climate and community interest. In theory, legislation is developed because of a community's increase of public awareness and perception of a societal issue.

McLeroy's model stems from Bronfenbrenner's ecological systems theory (McLeroy et al., 1988). The ecological systems theory identifies five environmental systems pertaining to individuals.

- *Microsystem*: The people and groups that mostly impact an individual.
- *Mesosystem:* Interactions between the people and groups of the microsystems.
- *Exosystem:* Situations in an individual's social setting, which is not directly related to an individual.
- *Macrosystem:* The culture of the individual.
- *Chronosystem:* Environmental events that impact the individual. (Rosa & Tudge, 2013)

Bronfenbrenner's theory argues a person is affected by everything in their surroundings (Neal, 2013). Each of the five environmental systems is included in an individual's decisions and life (Rosa & Tudge, 2013). McLeroy's et al. (1988) theory extends this theory to public health and is rooted in the idea of interpersonal,

intrapersonal, organizational, community, and policy relating to one and other. The concept depicts how health related factors impact a movement or policy. McLeroy et al. (1988), claim the five factors (interpersonal, intrapersonal, organization, community and policy) all intertwine to create a movement and produce a policy.

McLeroy's et al. (1988) theory is reflected in the development of the federal wellness policy guidelines. The five mandated guidelines were developed from a community concern. The guidelines are as follows: 1. goals for student health and nutrition education and promotion; 2. guidelines for the availability of food and beverages; 3. documentation to show adherence of the regulations; 4. a developed plan ensuring the implementation of the policy; and, 5. involvement of stakeholders in the creation of the plan.

The national concern of the obesity rate may stem from medical care cost increases, a surge in school and cyber bullying, and low academic achievement among overweight and obese students (Gollust, Niederdeppe & Barry, 2013). The policy guidelines were developed from a societal issue concerning a community of people. The concern pushed awareness and a policy was created. The ecological model of public health demonstrates the endless cycle of factors resulting in a policy.

The need for this study was derived from McLeroy's et al. (1988) ecological model. The model represents societal concerns such as challenges addressed in RQ3 and extends to the environment of the community as addressed in RQ2. Due to this research, a recommendation can be made to the GaDOE regarding changes to the current federal wellness requirements. The model is shown in Figure 1.

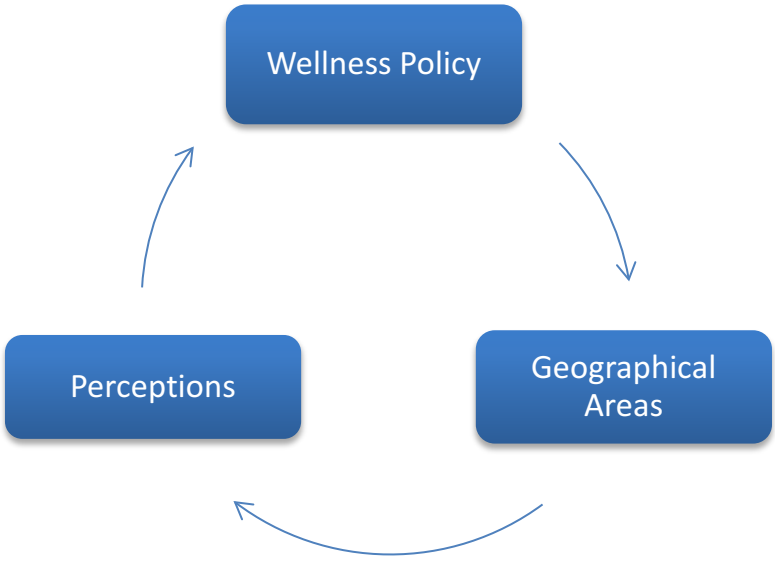

Figure 1. The figure illustrates McLeroy's ecological model as it pertains to Georgia local school wellness policies.

Summary of Methodology

A quantitative research design was used to examine data regarding Georgia public school wellness policies. This study was conducted in two phases. The first phase was a study of Georgia public school districts' local wellness policies. The second phase examined data collected through a survey to superintendents. Through the use of the survey superintendent's perceptions of impediments in implementing wellness policies were found. District geographical data were collected and used to conduct an ANOVA to determine if differences lie within geographical groups.

Limitations

The study was confined to Georgia public school districts because each district must meet the same requirements. The policies were selected exclusively from the 2014-2015 school year in order to assess the most current school policy on record at the

GaDOE. A limitation of the study includes the survey response rate from superintendents and district wellness coordinators. An online survey may be overlooked or intentionally unanswered by district educational leaders. The survey was sent through the online software Qualtrics. To increase the response rate, three reminders were sent to those who did not answer the survey. Additional phone calls were made and supplemental emails were sent to district wellness coordinators.

Definition of Terms

The following definitions are presented to help clarify meanings and concepts of key terms. These terms are used throughout the study.

Body Mass Index. Body Mass Index (BMI) is defined as a person's weight in kilograms divided by the person's square of height in meters. A high BMI can be an indicator of health problems. A person's BMI determines their obesity status (Centers for Disease Control and Prevention, 2015).

Competitive Foods. Competitive foods are foods purchased by students that are sold outside of the United States Department of Agriculture (USDA) school meals. Foods bought from vending machines or al a cart are considered competitive foods (WellSAT 2.0, 2013).

Free and Reduced Lunch. The National School Lunch Program provides free or low-cost meals to students who are part of low socioeconomic families. To qualify for free and reduced lunch children must come from families with incomes at or below 130 percent of the poverty level. If the family's income falls between 130% and 185% of the poverty level the student is eligible for reduced-price meals (National School Lunch Program, 2015).

Local Wellness Policy (LWP). A local school wellness policy is a written document that is used to guide local educational agencies (LEA) or school districts. The LWP consists of official policies that help promote student health and diet (Local School Wellness Policies, 2015).

National School Lunch Program (NSLP). The National School Lunch Program is a federally funded food program. The program provides a nutritionally balanced lunch to all students at a small cost or no cost at all. The program was established in 1946 under the National School Lunch Act (National School Lunch Program, 2015).

Obesity. Obesity is defined as a BMI that ranges at or above the 95th percentile for people of the same age and sex (Centers for Disease Control and Prevention, 2015).

Geographical Areas. The 181 Georgia public school districts were divided into four regional areas. The areas are Northern Georgia, Greater Atlanta, Southeastern Georgia, and Southwestern Georgia as were determined by Georgia Zip Code Map (Georgia Zip Code Map, 2016).

School Breakfast Program (SBP). The School Breakfast Program is a federally funded food program. The program provides a nutritionally balanced breakfast to all students at a small cost or no cost at all. The program was established in 1966 and made permanent in 1975 (School Breakfast Program, 2015).

Smart Snacks. Food not sold by the USDA and is deemed acceptable to sell in the school environment. These foods must meet standards. The standards typically require the foods to contain whole grains, fruits, vegetables, or low-fat dairy. The standards also require set limits on calories, sugar, fat, and sodium (Healthier School Day, 2015).

Socioeconomic Groups. Georgia school districts were divided into one of three socioeconomic groups: under 25% free and reduced, 26%-50% free and reduced and 51% and over free and reduced. Data were generated from the 2015 FTE GaDOE free and reduced lunch report (GaDOE, 2016). Data were cross-referenced with the United States Census Bureau Georgia district poverty report (Georgia Poverty Rate by County, 2015).

Total Comprehensiveness Score. Total comprehensiveness is calculated by adding the comprehensiveness scores of all six sections and dividing this number by six (WellSAT 2.0). The total comprehensiveness score serves as the dependent variable in statistical analysis. An ANOVA measured differences, if any, in the wellness policies in geographical areas of the state.

Total Strength Score. The total strength score is calculated by adding all six section strength scores together and dividing by six (WellSAT 2.0, 2013). The total strength score serves as the dependent variable in statistical analysis. An ANOVA measured differences, if any, in the wellness policies in geographical areas of the state.

Summary of Chapter

Though wellness policies have been mandated since 2004, the childhood obesity epidemic is still prevalent in the United States. Schools are called to help fight this cause but are failing to do so. The United States Department of Education requires school districts to adhere to a wellness policy, yet the extent of implementation is unknown. Through an examination of wellness policies and a survey to district wellness coordinators, the study determined if local wellness policies were meeting the national requirements and what challenges districts faced while implementing the policies. Chapter 2 is a detailed review of current literature supporting the need for this research.

Chapter 3 introduces the quantitative methodology of the study. Chapter 4 is a report of the findings of the study, and Chapter 5 is a summary of the findings.

Chapter II

LITERATURE REVIEW

Childhood Obesity

Childhood obesity and poor nutritional habits have been a societal issue for decades. As reflected in McLeroy's et al. (1988) ecological model of public health, the issue finally became a concern to the public and the lawmakers have looked to public schools to help resolve the issue. The Center for Disease Control and Prevention (2015) identifies obesity in a child having a body mass index (BMI) score at or above the 95th percentile for children and adolescents of the same age and gender. The Center for Disease Control and Prevention (2015) noted a decrease in obesity for children ages 2 to 5 from 2003/2004 to 2011/2012. As of 2012, school age students remained stable at roughly 12.7 million children being identified as obese.

The consequences of childhood obesity for a nation can be immense. Gollust, Niederdeppe, and Barry (2013) claim longevity, medical costs, and bullying among children are all consequences of the obesity epidemic. Though some believe obesity is an individual issue, the consequences are impacting the nation as a whole and have become a national concern. Obesity at a young age can negatively impact a child's health and can cause diseases such as neurological, pulmonary, endocrine issues, orthopedic and gastroenterological conditions. Other issues such as high blood pressure and cholesterol, as well as diabetes, are also medical concerns (Li & O'Connell, 2012) resulting in an increase in medical care costs for many parents and taxpayers.

Childhood obesity has reached an epidemic level and there has been a rise in diabetes and other nutritional diseases (Bhadoria, Sahoo, Sahoo, Choudhury, Sufi, &

Kumar, 2015). Causes of childhood obesity are wide-spread. According to Bhadoria et al. (2015) consumption of sugary beverages can increase children's BMI. Sugary drinks are not limited to soda drinks. Many children drink juice and sweetened beverages that increase sugar intake and could potentially lead to obesity. High caloric snack foods such as chips, candy, and cookies increase children's caloric intake and may contribute to obesity. Portion sizes of meals have also increased over the last decade causing children to receive higher caloric intake at each meal (Bhadoria et al., 2015).

Causes of childhood obesity extend beyond food choices. Children's activity level is significantly linked to obesity. According to Bhadoria et al. (2015), each additional hour of television per day increases a child's obesity risk by 2%. The increase in sedentary behaviors has greatly impacted the amount of physical activity children receive. Socio-cultural factors are also an element in the increase of childhood obesity.

Obesity has been associated with negative psychosocial outcomes such as depression and lower self-esteem (Li & O'Connell, 2012). Cornette (2011) conducted a 10-year study and determined that all participants revealed some level of psychosocial impact due to their weight status. Children who suffer from obesity often have traits associated with eating disorders and therefore are more likely to have a disorder. As students suffer from health and psychological concerns related to obesity their academic achievement may also become a concern. Mo-Suwan, Lebel, Puetpaiboon, and Junjana (1999) reported a decline in grade point average (GPA) in overweight and obese Thai students in grades 7 to 9. Poor health and depression, which are often effects of obesity, can impact student attendance and in turn their academic achievement.

Legislation

In 2001 the Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity, sequentially led to The Child Nutrition and WIC Reauthorization Act (CNR) of 2004 (Greves, & Rivara, 2006 & Snelling, Korba, Burkey, 2007). In 2004, Congress required all school districts to develop and implement a wellness policy for their individual school or school system in hopes of eliminating competitive foods lacking nutrition and increasing physical activity and health education. Competitive foods, such as chips, candy and soda are foods not served as part of the National School Lunch Program (NSLP) (National School Lunch Program, 2015), but may be bought separately from school cafeterias. Congress and the GaDOE required all school districts to partake in the NSLP and other federally ran child nutrition programs and develop and fully implement the policy by the 2006-2007 school year.

Healthy Hungry-Free Kid Act was established in 2010 (HHFKA). Under Section 2014 of the HHFKA, school districts must involve stakeholders in the creation of the policy and make consistent updates to the public. The policy update also required schools to review their policies (Team Nutrition, 2015) though no review tool is currently mandated. The act allows for funding for meal reforms to the school lunch and breakfast programs. Before the HHFKA of 2010 limited to no funding was provided for school wellness.

The wellness policy legislation of 2004 and the HHFKA of 2010, has led to organizations such as the Action for Healthy Kids (AFHK) and the American School Health Association (Moag-Stahlberg, Howley, & Lusci, 2010). Before the new legislation, school wellness focused on lunchroom quality and not on physical education,

nutrition guidelines, or healthy education (Team Nutrition, 2015). The wellness policy requirements were last updated via the Healthy Hunger-Free Kids Act of 2010. The current policies must include, but are not limited to the following:

1. Goals for student health and nutrition education and promotion,
2. Guidelines for the availability of food and beverages,
3. Documentation to show adherence of the regulations,
4. A developed plan that ensures the implementation of the policy,
5. Involvement of stakeholders in the creation of the plan.

(Mâsse, Perna, Agurs-Collins, Chriqui, 2013)

Mâsse et al. (2013), found significant changes in school nutrition from 2003 to 2008. Through the process of coding policies and laws, the researchers found a significant rise in nutrition education and local and federal nutrition policies after the release of the federal mandated requirements. Mâsse et al. (2013) used the National Cancer Institutes updated School Nutrition- Environment State Classification System to code federal wellness laws. Well-developed, fully implemented policies were given a higher score. Poorly developed policies or policies not implemented with fidelity were given a lower score. The number of well-developed policies and laws increased from 2003 to 2008. Though the policies and laws increased, the obesity rate did not decrease (The Center for Disease and Control Prevention, 2015). Reasons for this contrast include misalignment of policy to practice. For example, Moag-Stahlberg, Howley and Luscri (2008) studied 256 Local Wellness Policies (LWP) nationwide (discarding Hawaii), and the results showed that no policy addressed all the requirements in all standard areas and 68% addressed enough to only meet minimal law requirements. Gaines et al. (2011)

evaluated wellness policies developed by Alabama public schools. Through data gathered by a survey of compliance, schools were given a grade based on their implementation of the mandated portions of the policies. Though all the schools were in compliance with all the portions, the average implementation score was a 79%. Thomas and Buns (2015) evaluated 241 Iowa wellness policies focusing on the physical education standard. They concluded physical education standards were positively impacted when a physical education teacher was part of the wellness policy committee. Gaines et al. (2011) concluded that though the schools were in compliance, their policies were not effective, thus more resources and a better measurement tool were needed to evaluate school wellness policies.

Challenges and Resources Needed

Many state officials believed that school wellness policies would be a key component to the prevention and decline of childhood obesity. Though as of 2008 more schools were adhering to the wellness policies, there is still no significant decline in childhood obesity (Mâsse et al., 2013). Agron et al. (2010) searched for reasons as to why childhood obesity is not declining. Through 2900 surveys, focus groups, and interviews, they found multiple barriers that schools face while attempting to implement wellness policies. They found funding to be the number one barrier to successfully implementing wellness policies.

Strict new initiatives may also be serving as barriers to successful implementation. As of July 1, 2014 each state is required to adhere to the "Smart Snack Law." This law, put in place by the USDA, requires school districts to follow a strict policy on competitive food and beverages, as well as food and beverages sold as part of

the NSLP. The regulations focused on ingredients in foods, sizes and content of beverages, calories, and time of day the food is offered. These strict regulations may provide a financial challenge to schools and school districts. School stores, clubs and teams, parent-teacher organizations, and school and nutrition departments often receive money from selling competitive foods. The new "Smart Snack Law" restricts the selling of non-healthy foods during the school day (Blad, 2014). Agron et al. (2010) also cited adequate funding as the number one barrier to implementing wellness policies as noted in their survey of state and school board members. They concluded funding for training and for facilities were needed to correctly implement the policies (Agron, Berends, Ellis, & Gonzales, 2010).

Though selling of competitive foods, such as chips and ice cream, has been a focus of the GaDOE and the United States Department of Education (USDOE), other concerns are also being explored. Cho and Nadow (2004) discovered there are barriers to schools providing nutritional lunches. After receiving 217 responses from school administrators to a qualitative survey, Cho and Nadow (2004) concluded student preference is the most difficult barrier to overcome. However, Cullen, Watson, and Zakeri (2008) conducted an experiment where they limited the competitive food choices in three Texas middle schools and monitored students' purchases for a 3 year span. At the end of the 3 years students were purchasing healthier food while the purchase amount remained the same (Cullen, Watson & Zakeri, 2008). Hopkins High School, in Minnesota, also depleted its supply of competitive foods and replaced them with the Health Nut Café. The Health Nut Café is a window in their lunchroom that provides only

nutritional food. Grainger, Runge and Senauer (2007) found as the program was revamped the students' nutritional choices increased.

Greves and Rivara (2006) concluded there are three primary reasons why competitive foods are still in school cafeterias even though the Department of Education strongly suggests they not be sold. The first and major reason is that competitive foods provide money for schools and school districts. Agron et al. (2010) found lost funding from vending machines, competitive foods and fundraisers were part of their largest challenge in implementing the policy. Vending machines, soda machines, and school fundraisers all have a financial impact on schools and school districts.

Through surveys of state and school board members Agron et al. (2010) found lack of time and priorities were the second largest barrier to successfully implementing the policies. Specifically, lack of priority leadership placed on school nutrition is an issue. Administrators and district leaders often place academic related issues above school nutrition and attention is often focused on required national programs such as the NSLP. These programs provide free and reduced lunches to students and in addition money to schools. The final barrier to successful implementation of local wellness policies lies in the parents' choices. Parents may believe that their child should have "free will" and be able to have choices in their dietary intake at school. In most schools, eliminating competitive foods would require students to eat the NSLP lunch (Greves & Rivara, 2006).

As mandates continue to be pushed down by the national and state government, school districts are attempting to meet the demands of health initiatives but are often falling short. Agron et al. (2010) conducted a study in which 2900 participants partook in

an online survey, focus groups, and interviews. The study noted that school districts needed adequate funding, additional staff, training opportunities, and time to meet all mandated requirements. Dodson et al. (2009) interviewed 16 state-level policy makers. Through the interviews they identified training (for all constituents) and money as the major resources needed to successfully implement the policies. They also noted challenges and resources needed differ for students of low socioeconomic status. Fradklin, Wallander, Elliott, Tortolero, Cuccaro, and Schuster (2015) conducted a 2 year longitudinal study among 4,824 10 and 11-year-old students. The results revealed that students in a higher SES (socioeconomic status) family had a significantly lower chance of being obese than students in a lower SES family.

Obesity and Environment

A student's environment can greatly impact their dietary intake, exercise habits and overall wellness. Indicators such as socioeconomic status and geographical location may contribute to high obesity rates in children. Socioeconomic status is a combined measurement of education, income and occupation and is often related to power and privilege (Ethnic and Racial Minorities, 2016). Inequities in socioeconomic status may play a role in health and wellness and may have an impact on childhood obesity. Racial/ethnic groups such as Hispanics and African Americans are often affiliated with low socioeconomic status. American African children are three times more likely than Caucasian children to live in poverty (Ethic and Racial Minorities, 2016). Fradkin, Wallander, Elliott, Totolero, Curraro, and Schuster (2014) noted in their research that neighborhoods with high poverty rates have more fast-food restaurants and convenient stores that provide high-caloric foods and a lower availability of fresh foods. High

poverty neighborhoods also tend to have a lack of safe, accessible exercise areas and can contribute to higher BMI scores. Fradkin et al. (2014) studied 4,824 fifth graders. They measured their body mass index and measured their index again 2 years later. They used family income and education as indicators for SES. They found a relationship exists between lower SES students and high obesity rates. The higher obesity rate was related to lack of activity and dietary intake as found in high poverty areas.

Children spend the majority of their time at either school or home and thus it is essential to consider the effects both environments have on children. According to Carroll-Scott, Gilstand-Haydenn, Rosenthal, Eldahan, MCaslin, Peters, and Ickovics (2015) ecological frameworks such as socioeconomic status can influence student development. Particular socioeconomic factors such as neighborhood poverty levels can contribute to health social norms and can play a part in childhood obesity. Carroll-Scott et al. (2015) conducted a study modeling school differences in BMI. They found on average students attending a school with a positive school climate had a lower BMI than students attending a school with a less positive school climate. Schools with higher poverty rates are more likely to have a negative school climate. Socioeconomic status can impact a student's health, therefore the indicator has been included in research pertaining to childhood obesity.

A student's environment extends outside of their financial status. Students who live in different geographical locations may have access to types of food that are higher in fat and calorie content. For example, a student who lives in rural Georgia and does not have walking access to a fast food restaurant may be less likely to eat fast food than a student living in the city within walking distance to these convenient restaurant. The

same rural student may also have more access to fresh fruits and vegetables. Martz, Anthopolos, Geller, and Maxson (2014) studied the relationship between adolescent obesity and food environment. They found adolescents living closer to food specialty stores were 22% more likely to be obese. Penney, Rainham, Dummer, and Kirk (2014) studied the spatial variation of obesity in geographical locations. Through a cross-sectional analysis they concluded obesity rates differed between rural and urban areas. The study indicates a need for understanding geographical locations, obesity rates, and appropriate interventions.

Summary of Chapter

Childhood obesity has been a national epidemic for decades. New legislation continues to pass in order to fight the issue. Since 2004 the American public school system has played a large part in the fight. Schools have been mandated to cut unhealthy food, change serving times, reduce fundraisers and increase nutrition education. With the new mandates educational leaders are experiencing challenges keeping their school districts from successful implementation. Research shows loss of funding, lack of training, and time restraints are key barriers prohibiting successful implementation. Factors outside of the school control also play a factor in the obesity epidemic. Research shows low socioeconomic status can contribute to poor dietary intake and lack of accessible exercise areas. Research also suggests a students' geographical location can impact their obesity level. Environmental factors such as low socioeconomic status and geographical location adds to the implementation challenges school leaders face. Though schools and school districts have been fighting the obesity epidemic for over a decade, the childhood obesity rate has not shown a significant decline (The Center for Disease

Control and Prevention, 2015). Challenges and environmental factors are playing a role in the lack of progress. Chapters 3, 4 and 5 sought to determine challenges and resources needed to successfully implement wellness policies.

Chapter III

METHODOLOGY

The purpose of this study was to gain a better understanding of Georgia school wellness policies by assessing the alignment of school districts' local wellness policies to the national wellness policy guidelines. A quantitative research design was most appropriate for this study because it allowed for an examination of Georgia public school wellness policies. The Georgia public school wellness policies were collected from the GaDOE and analyzed using online software. A survey was completed by school districts' superintendents or wellness coordinators and used to determine perceptions and impediments.

Chapter 3 describes the research design and methodology used in this study. The chapter is divided into two sections: Phase 1 and Phase 2. The chapter begins by explaining the need for Phase 1 and identifying the research methodology. Explanation of the participants and setting, data collection and analysis, instrumentation and threats of validity for Phase 1 are detailed in Chapter 3. The same sections are repeated for Phase 2. The findings of Chapter 3 are reported in Chapters 4 and 5.

Phase 1

Research Design

Phase 1 of this study used a quantitative approach to generate information regarding Georgia public school wellness policies. Phase 1 of the design was an examination of the written wellness policies through the online software WellSAT 2.0. The University of Connecticut Rudd Center for Food Policy and Obesity provided the

software for the research. The 2014-2015 district wellness policies were used because they were the most current policies housed by the GaDOE.

Threats to Validity

Internal validity threats are procedures or experiences of the participants interfering with the researcher's ability to collect accurate data (Creswell, 2014). Phase 1 of this study was subjected to procedural validity threats of researcher bias. The WellSAT 2.0 was coded by the researcher and each coded policy was subjected to researcher bias. The researcher participated in WellSAT 2.0 trainings via online tutorials to combat researcher bias.

Setting

Data from the WellSAT 2.0 were used to answer RQ2. School districts were grouped in one of four geographical areas: Greater Atlanta, Northern Georgia, Southwestern Georgia, and Southeastern Georgia in order to address RQ2. Greater Atlanta is a largely populated urban area in the center of the Piedmont region of Georgia (Geographic Regions of Georgia, 2004). It contains the highest population and the smallest number of school districts of the four regions as depicted in Table 1 (People Facts, 2014). The urban area of Greater Atlanta is not an agricultural area though the Piedmont area is known for farming. The second region, Northern Georgia, is a combination of the Piedmont, Blue Ridge and River Valley regions. Northern Georgia is commonly known for farming, forest, and mountains (Geographic Regions of Georgia, 2004). This region contains all northern counties outside of the Greater Atlanta counties. The third and fourth regions, Southwestern and Southeastern Georgia, are primarily in the Coastal Plain region of Georgia. The Coastal Plain region houses 60% of Georgia's land

mass and is poorly suited for agriculture due to the wetness of the land. Both regional areas are similar in size, population, and income as noted in Table 1.

Table 1

Geographical Area Information

Geographical Area	Number of Counties	Number of Public School Districts	Population	Median Yearly Household Income
Greater Atlanta	31	22	5,088,344	59,560
Northern Georgia	40	48	1,669,921	40,564
Southwestern Georgia	47	49	1,489,939	37,627
Southeastern Georgia	51	53	1,439,449	37, 319

Instrumentation

WellSAT 2.0

This study used two data collection instruments. Phase 1 data were collected through the WellSAT 2.0 and addressed RQ1. The WellSAT 2.0 was used to examine 78 wellness policy statements developed from the national wellness policy rule. They were divided into six wellness policy sections and addressed the five national wellness policy guidelines. The five guidelines are represented in multiple sections of the WellSAT 2.0. Table 2 displays the six sections and the guidelines covered in each section.

Table 2

WellSAT 2.0 Policy Section and Guidelines

Wellness Policy Section	Wellness Policy Guideline
Nutrition Education	Goals for health, education and promotion
Standards for USDA Child Nutrition Programs and School Meals	Guidelines for availability of food and beverage
Nutrition Standards for Competitive and Other Food and Beverages	Guidelines for availability of food and beverage
Physical Education and Activity Wellness	Goals for health, education and promotion and involvement of stakeholders in the creation of the plan
Promotion and Marketing	Goals for health, education and promotion and a developed plan to show policy implementation.
Evaluation and Communication	Documentation to show adherence of regulations, a developed plan to show that ensures the implementation of the policy, Involvement of stakeholders in the creation of the plan

Nutrition Education

Nutrition Education is Section 1 of the WellSAT 2.0 and addressed the state and national guidelines of student health, nutrition education, and promotion. The section had seven statements pertaining to the number and type of nutrition education required in the wellness policy. All seven statements addressed the goals for student health, nutrition education, and promotion. The national guidelines required behavior-focused skills, a curriculum for all students, and offering information to parents. For example, statement

number one reads, “There is a standards-based nutrition curriculum, health education curriculum, or other curriculum that includes nutrition” (Local School Wellness Policy, 2014)

Standards for USDA Child Nutrition Programs and School Meals

The second section of the WellSAT 2.0 is Standards for USDA Child Nutrition Programs and School Meals. The section related to USDA school meals and addressed the guidelines of the availability of food and beverages. It did not address competitive foods sold during lunch or during non-lunch periods. The national policy suggested local wellness policies address participation in school meal programs, recess times, and the availability of free drinking water for students (Local School Wellness Policy, 2014). The section had 14 statements and all statements addressed the guidelines for availability of food and beverage, e.g., a statement in section two reads, “Ensures adequate time to eat.”

Nutrition Standards for Competitive and Other Food and Beverages

Section 3, Nutrition Standards for Competitive and Other Foods/Beverages, addressed the guideline of availability of food and beverages. The statements rated in this section pertained to the sale or service of competitive foods sold outside USDA school meals. The national policy proposed local wellness policies address Federal Smart Snack regulations, food fundraisers, class party foods, and nutrition information of foods available at the school outside of the USDA school meals (Local School Wellness Policy, 2014). Section 3 has 11 statements addressing the guidelines of availability of food and beverage. For example, a statement in Section 3 states, “Regulates food served during classroom parties and celebrations in elementary schools.”

Physical Education and Activity Wellness

Section 4, Physical Education and Activity Wellness, is the largest section and refers to the guideline of goals for student health and nutrition education and promotion. The section had 20 total statements. Sixteen of the statements focused on goals for student health and nutrition education and promotion; four of the statements related to the involvement of stakeholders in the creation of the plan. Non-curriculum based physical activity, such as "District addresses recess," was rated in Section 4. The national rule requires an offering of physical education and encourages opportunities for other physical opportunities. The national policy requires clear goals for physical activity, partnership with community health organizations, and availability of safe facilities for physical activity (Local School Wellness Policy, 2014).

Promotion and Marketing

Section 5 of the WellSAT 2.0 referred to Promotion and Marketing and Implementation and addressed the guidelines of a developed plan ensuring the implementation of the policy and involvement of stakeholders in the creation of the plan. In 2005 the Institute of Medicine deemed marketing to children as a national issue (WellSAT 2.0, 2008). The WellSAT 2.0 addressed this issue by providing statements pertaining to the national proposed wellness policy requirements. Section 5 had 15 total statements and was divided into two parts. Part One had 10 statements focused on marketing of physical activity and healthy eating. The national guidelines required staff to model healthy habits, not using food as a reward, and avoiding physical education being used as a punishment (Local School Wellness Policy, 2014). Part Two contained five statements and addressed the marketing of foods sold outside of the school day. The

national guidelines recommended school districts limit the marketing of unhealthy foods on vending machines, during fundraisers and at extra-curricular events.

Evaluation and Communication

Section 6 of the WellSAT 2.0 is Evaluation and Communication and addressed multiple guidelines. The guidelines highlighted documentation to show adherence of the regulations, a developed plan ensuring the implementation of the policy, and involvement of stakeholders in the creation of the plan. Statements were rated on whether the district "addressees a plan for updating policy based on best practices" or "addressees methods for communicating with the public." The national policy guidelines suggested a wellness policy report be presented to the public. The report must include access to the policy, description of goals, summary of events related to the wellness policy, information of coordinators, and how the public can be involved with the wellness policy team (Local School Wellness Policy, 2014).

The WellSAT 2.0 has been deemed an acceptable measure of wellness policies. Multiple tests have been conducted to determine the psychometric properties of the WellSAT 2.0. Schwartz, Lund, Grow, McDonnell, Probart, Samuelson, and Lytle (2009) selected four states and divided the states into sections. The sample contained 15 policies per state for a total of 60 policies. An in-state and out-of-state researcher each coded a policy in order to obtain inter-rater reliability. Intra-class correlation coefficient statistics were used to determine inter-rater reliability. Policies' mean scores were calculated to ensure inter-rater reliability coefficients. Cronbach's-alpha was calculated for each subscale of the tool and were reported as follows: nutrition education .60, meal standards, .79, competitive foods .93, physical education .74, physical activity .75, communication

and promotion .71, and evaluation .71. The results of the psychometric analyses indicated the tool was a valid measure of the quality of district wellness policies.

Data Collection and Analysis

The Valdosta State University Institutional Review Board approval was obtained prior to data collection (see Appendix C). The first phase of the study was a collection of Georgia public school districts' wellness policies and addressed RQ1 pertaining to Georgia public school districts' written wellness policies and the extent they reflected state wellness policy requirements. Permission to review the Georgia public school district wellness policies was granted by the GaDOE and was reviewed by the researcher. The GaDOE required each school district to provide written wellness policies as approved by the local school board.

The WellSAT 2.0 was used to collect initial data. The tool was designed to evaluate school wellness policies as they pertained to the national regulations, but is not used for state or national assessment. The WellSAT 2.0 was to be used as a supplemental evaluation tool for school districts. The online tool was developed for school districts to be able to assess the written quality of school wellness policies and provide school districts with guidance to ensure adherence of regulations. Though a well-written policy does not ensure effective implementation, Schwartz et al. (2012) found policies with strong and clear language are more likely to be implemented as intended. The total strength and total comprehensiveness scores of each category were reported for each school and were used to determine the extent the policy met the national policy requirements. These statistics were used to answer RQ1. Descriptive statistics were reported.

Rating Process

Each policy was scored using the WellSAT 2.0 after the district wellness policies were collected. The tool evaluated the degree to which the policy adequately addressed 78 policy statements and the extent the policy reflected the national guidelines. Each policy statement was first scored to receive an overall wellness policy score using the WellSAT 2.0. The 78 statements in the WellSAT 2.0 were scored on a 0-2 scale: 0 = not mentioned, 1 = mentioned though weak, 2 = meets or exceeds expectations. Each of the six sections received an overall strength and comprehensiveness section score used to calculate two whole policy scores. The first score was a total comprehensiveness score demonstrating the extent the content areas were covered in the district wellness policy. The score was calculated by adding all scores from the six sections. The second score was a total strength score indicating to what extent the content was stated. The total strength score was calculated by adding the section strength scores together with the total being divided by six (WellSAT 2.0, 2013). A one-sample *t* test was conducted to determine significant differences of the districts' comprehensiveness and strength scores compared to the national standard. The scores were used to conduct ANOVA tests for RQ2.

Data from Phase 1 were analyzed and used to guide the subsequent data collection of Phase 2. After determining trends from the collection of data in Phase 1, the open response questions of the Wellness Policy Survey were analyzed for similar trends. Weak policy areas were determined through the review of wellness policies in Phase 1. Data collected from the multiple choice questions of the Wellness Policy Survey aided in determining weak areas as well. The two data sets were used to triangulate data.

Phase 2

Phase 2 contained a wellness policy survey created by the researcher using current literature. Current literature indicated funding, professional development, and time were all barriers to successful wellness policies. Current literature noted the evaluation process should be studied for future research.

Research Design

Phase 2 of this study used a survey research design. Creswell (2014) stated the purpose of using a survey research design is to "generalize from a sample to a population so inferences can be made" (p. 157). The use of a survey provided a cost effective way to collect data from a large population and generalize the findings to a large group (Creswell, 2014). For this study the survey approach was the preferred type of data collection because it allowed for superintendents or wellness coordinators to provide input and for data to be collected rapidly at a cost effective rate. Though survey research can be quick and effective, it had weaknesses. The instrumentation did not collect in-depth responses and did not provide an opportunity for further responses of the questions. Since the survey was sent to the participant's email, it may have been overlooked, quickly disregarded, or sent to the participants SPAM email folder.

Participants

This study took place in Georgia and focused on Georgia public schools. Georgia public schools are divided into 181 school districts and each district is assigned a wellness coordinator. District wellness coordinators serve multiple roles within the district such as, superintendents, assistant superintendents and coordinators of student services. The survey was sent to superintendents who were asked to forward the

instrument to the wellness coordinator. The survey was sent to all 181 school districts. Superintendents' emails were obtained through the GaDOE and the survey was sent through Qualtrics, an online software. Participants from each of the four geographical areas were needed to answer RQ2. The survey used in the study was sent in the winter of 2017 via email with a link embedded in the email message and a brief, detailed description of the research project. Three reminders were sent to participants.

Threats to Validity

The second threat was response bias. The participants were responsible for the respective school local wellness policies and may not have wanted to answer negatively. Confidentiality was ensured to reduce participant's concerns. External threats to validity may arise when a researcher incorrectly generalized results to other persons, settings or future situations (Creswell, 2014). This study contained a potential survey external validity threat. The survey was sent to 181 school districts. Each geographical group needed an adequate number of responses to be able to correctly run the statistical analysis and generalize the results. To address this threat, a survey reminder was created through the survey software. Personal emails and phone calls were sent as a reminder to the non-participating superintendents.

Instrumentation

Wellness Policy Survey

The researcher issued an online survey to superintendents to address RQ3. The first four questions of the survey collected information regarding demographics and school information. The first and second questions related directly to the participants. Participants were asked to identify their title and/or role in the district such as

superintendent, assistant superintendent, director, coordinator, or other. The participants were asked to indicate how long they have held the position of wellness coordinator by select from one of the following answers: under 5 years, 6 to 10 years, over 10 years, or I am not the wellness coordinator. The third and fourth demographic questions related to the school district. Participants were asked to select one of three socioeconomic areas representing their school: under 25% free and reduced, 26%-50% free and reduced, and 51% and over free and reduced. They were asked to select the representative geographical region based on the Georgia Zip Code Map provided with the survey. The free and reduced lunch question was used to determine a possible future study need. The geographical region question was used to cross-reference geographical data for the ANOVA statistical test.

The survey attempted to depict perceptions of impediments from superintendents or wellness coordinators. According to Agron et al., (2010) and Dodson et al. (2009), the main barriers to successfully implementing a wellness policy were funding, lack of professional development, time to implement the policy, and an adequate evaluation system. A survey was developed by Agron et al. (2010) in the study *School Wellness Policies: Perceptions, Barriers, and Needs Among School Leaders and Wellness Advocates.* A survey, similar to the survey devised by Agron et al., was created and used for this study. The survey is included in Appendix A. Information was gained regarding the challenges of implementation and resources needed by districts and schools to implement the policies with fidelity via the issuance of the survey. The Wellness Policy Survey was divided into five sections: funding, professional development, time restraints and prioritization, compliance and evaluation, and impediments. Four of the sections

were determined through current research and the fifth section entailed open-response questions regarding impediments of implementation.

Funding

Research showed a lack of funding may be a barrier to successfully implementing wellness policies (Agron et al., 2010; Dodson et al., 2009). The funding section contained five questions and covered funding for nutrition education and USDA requirements. The section contained three statements pertaining to the loss of monies due to fundraising and marketing requirements.

Professional Development

Research denoted a lack of adequate professional development may be an obstacle to successful wellness policy implementation (Agron et al., 2010; Dodson et al., 2009). Section two of the survey had three questions pertaining to professional development of teachers, food and nutrition staff, and food service leaders. Survey Question 12 stated, "School and food service leaders are trained on the requirements of the mandated wellness policy."

Time Restraints and Prioritization

The third section of the Wellness Policy Survey addressed time restraints and prioritization. One question pertained to time and stated, "our teachers and leaders have adequate time to address wellness policy requirements." The remaining three questions in the section addressed the policy being discussed with leaders and made a priority in the school district.

Compliance and Evaluation

The Hungry Healthy Kid Act of 2010 required school districts to review the district's policies (Team Nutrition, 2015), though no review tool is currently mandated. The act required school districts to have a wellness committee and include stakeholders and the public in the policy review. Section four of The Wellness Policy Survey, compliance and evaluation, contained five questions relating to the compliance, review and evaluation of the written policy with a statement such as "A district-wide wellness committee meets regularly."

Impediments

The fifth section of the Wellness Policy Survey entailed two open-response questions. The open-response questions allowed participants to express concerns or ideas not addressed on the survey. Participants wrote a short answer in response to the following two questions: 1) What challenges do your district face in implementing wellness policies and food requirements such as Smart Snacks? and 2) What resources do you believe are needed to fully implement wellness policies?

Variable Creation and Data Analysis

An online survey was sent to district superintendents and responses were analyzed in addition to the data acquired through WellSAT 2.0. The survey determined the participants' perceptions of challenges when implementing the wellness policy. It identified what resources the respondents believed were necessary to overcome the challenges. The survey was collected online and analyzed to receive inferential statistics per the answers, as well as similarities between low scores on the WellSAT 2.0 and challenges identified by the respondents. The minimum survey response rate was 109

and calculated using Raosoft.com. The sample was determined with a 5% margin of error, a 90% confidence level, and a 50% response distribution (Sample Size Calculator, 2004). The survey data addressed RQ3.

The survey collected geographical data and cross-referenced it with the Georgia Zip Code Map. Permission was received to use the map graphic and is presented in Appendix B. The data collected were used to place each school district in one of four geographical areas. An ANOVA was conducted to measure differences as to the implementation of the national wellness policy requirements. The 181 school districts were divided into one of the four regional categories: Northern Georgia, Greater Atlanta, Southeastern Georgia, and Southwestern Georgia. A mean score was derived for each region using the total strength and comprehensiveness scores calculated from the WellSAT 2.0. An ANOVA was conducted address RQ2.

The survey was sent to 23 school leaders for respondent debriefing and 18 of the leaders responded. Prior to taking the survey, an email was sent to school leaders asking them to take the survey and provide feedback regarding the survey. After taking the survey the respondents were asked questions regarding the survey's wording, how well they understood the questions, and the amount of time the survey took for them to answer. All of the participants found the survey to be easy to read and understand. The results indicated the amount of time it took to take the survey was acceptable. Two grammatical errors were found by participants and corrected.

The attempt of the study was to find differences in the mean scores of the regional areas. It did not attempt to determine the degree of relationship among variables or determine if one variable predicted the other, thus a regression analysis nor a

correlation was appropriate. A significant difference between condition means would be reported if one were found. The degrees of freedom, the *F* value, and the *p* value were reported.

Rating Process

The survey addressed national wellness policy guidelines and asked survey questions relating to the challenges and resources needed to meet or exceed standards. The wellness policy survey contained 17 multiple-choice questions and two open-response questions. The participants answered the close-ended questions by selecting: 1) Strongly Agree, 2) Agree, 3) Disagree, and, 4) Strongly Disagree. The four selections were chosen to allow leveled choices. The survey was analyzed after a survey response rate of 22% was obtained. Data from the survey were reported in a table. The researcher searched for common answers among the questions and the results were compared to the examination of wellness policies for a triangulation of data. Participants indicated their geographical location on the survey. The geographical information gained was used to conduct an ANOVA statistical procedure and addressed RQ2. The ANOVA tests provided information regarding the ability to generalize the information. Skewness and kurtosis levels were found for each geographical area.

To analyze the two open-response questions, answers were categorized and placed into one or more of the categories. The categories aided in establishing a trend and were selected from current literature. Open-response Question 1, "What challenges does your district face in implementing wellness policy requirements?" responses were placed in the following categories: 1. Funding, 2. Professional Development, 3. Time, 4. Compliance/Evaluation, 5. Other. Open-response Question 2, "What resources do you

believe are needed to fully implement wellness policy requirements?" responses were placed in the following categories: 1. Funding, 2. Professional Development, 3. Time, 4. Compliance/Evaluation, 5. Other. Responses were analyzed by the researcher.

The groups used for the ANOVA were developed using the 181 Georgia public school districts. The school districts were divided into four geographical areas per the Georgia Zip Code Map: Northern Georgia, Greater Atlanta, Southeastern Georgia, and Southwestern Georgia. The map segregated the Atlanta area from the rest of the state since it is highly populated with schools and was considered as an area of its own. The scores for each district in the geographical location were calculated and a mean score was given to each geographical area. An ANOVA was conducted to answer RQ2 for this study. The statistical test determined if the mean scores were equal and able to be generalizable or if there were differences among the scores. ANOVAs are used in research to analyze the significance of differences on a dependent variable between two or more means and to measure the variation within and between groups (Mertler & Vannatta, 2010). For this study the ANOVA test was conducted using four independent variables and one dependent variable. The independent variables were the four geographical areas. The dependent variables were collected from the WellSAT 2.0. The dependent variable was the groups' mean total scores calculated using the WellSAT 2.0.

The ANOVA test addressed the following null hypothesis: There is no significant effect on wellness policy implementation among districts in four different Georgia geographical areas. Descriptive statistics were reported after the test was conducted. The ANOVA used the *F* ratio as the test statistic for the main effects using an alpha of 0.05. The results of the ANOVA were displayed in the form of main effects and effect

size estimates. No significant differences were revealed; therefore a post hoc analysis was not conducted. The homogeneity of variance was not violated so a Welch F test was not conducted.

Summary

The intent of this study was to provide insight as to why childhood obesity rates were not declining in the United States even though national and state governments have made drastic efforts to confront the rates. The study addressed impediments leaders faced in implementing school wellness policies. Chapter 3 provides a description of methodology used to complete this study. Weak areas of Georgia school district wellness policies were identified through data acquired through the WellSAT 2.0. A survey was created using current literature and was sent to Georgia school district superintendents. The WellSAT 2.0 provided mean total strength and comprehensiveness scores for all school districts. The scores were used to conduct an ANOVA between geographical areas. The results of the study and discussion of significance of the findings were reported in Chapter 4 and 5.

Chapter IV

RESULTS

The results of the data analysis are presented in this chapter for each research question. The analysis was divided into Phase 1 and Phase 2. Descriptive statistics are presented for both phases. The purpose of this study was to discover if Georgia public schools were meeting the national wellness policy requirements and what impediments may be impacting successful implementation. The aim was to examine how Georgia public schools' wellness policies compare to the national wellness policies, the extent different geographical regions were implementing the policies, and the perceptions of superintendents and wellness policy coordinators regarding challenges of implementation. Data from the WellSAT 2.0 were used to determine common weaknesses among school districts' wellness policies and the extent different regions were implementing the policies. The wellness policy survey identified the perceptions of superintendents and wellness policy coordinators regarding impediments. The information obtained can be used by school districts to strengthen wellness policies and by state officials to determine future legislative needs. The WellSAT 2.0 data were analyzed using Statistics Package for the Social Sciences (SPSS) to answer Research Questions 1 and 2. Qualtrics Survey Software was used to create and deliver the survey to Georgia superintendents and provided insight into research question three.

Research Questions

RQ1: Is there a significant difference in the extent Georgia public school wellness policies compare to the national wellness policy requirements?

RQ2: Do geographical regions of Georgia differ as to the implementation of the national wellness policy requirements?

RQ3: What are the perceptions of district wellness coordinators regarding challenges facing districts in implementing the required wellness policy?

Phase 1 Findings

Research Questions 1 and 2 were used to guide and organize Phase 1 findings. Of the 181 school districts, the Georgia department of education provided 129 completed wellness policies. The GaDOE were not able to provide 51 wellness policies because they did not have the policy or the policy was considered incomplete. Findings for Phase 1 contained descriptive results and included geographic information. Findings specific to the research questions were inferential and answered through a one-sample *t* test and an ANOVA.

Descriptive Findings

Each school district wellness policy was rated using the WellSAT 2.0. Six WellSAT 2.0 sections were rated and given a comprehensiveness score and a strength score for each school district. Each school district was given a total comprehensiveness score and strength score. The national standard score was 100 for comprehensiveness and strength scores. The mean comprehensiveness score for Georgia public schools was 39.15 with a standard deviation of 15.91 indicating the wellness policies comprehensiveness were below adequate. The mean strength score for Georgia public schools was 14.92 with a standard deviation of 15.3 signifying the written strength of the Georgia public school policies was extremely weak. Table 3 displays Georgia public schools mean comprehensiveness scores and mean strength scores for each of the six

standards. The evaluation standard was the strongest rated standard for comprehensiveness and strength. Evaluation comprehensiveness mean was 41.13 points above the lowest standard of physical education and activity and evaluation strength mean was 18.32 points above the lowest strength standard of physical education and activity. Nutrition education was rated high for comprehensiveness, yet only rated a 12.79 for strength score. The data suggested the required portions of the policy were present yet not written in depth. The physical education and activity standard was the weakest rated standard indicating it is the least fully implemented standard by Georgia public schools. The data were compared to Phase 2 data for a triangulation of analysis.

Table 3

Standard Mean Scores (N =129)

Standards	Mean CS	Std. Deviation	Mean SS	Std. Deviation
Nutrition Education	53.48	32.84	12.79	25.93
Standards for School Meals	32.46	17.73	15.61	16.21
Nutrition Standards	35.45	29.78	12.51	22.92
Physical Ed./Activity	22.00	16.86	6.91	12.25
Wellness Promotion	28.06	24.63	10.64	16.98
Evaluation	63.13	25.28	30.88	30.57

Note: CS = Comprehensiveness Score SS = Strength Score

A one-sample *t* test was conducted to answer RQ1 and assess the difference between the districts' comprehensiveness and strength scores and the national standard. The descriptive statistics of the comprehensiveness score and the strength score of Georgia public school districts are shown in Table 4.

The *t* test determined Georgia public schools are less than adequate in their comprehensiveness. The comprehensiveness results, $t(129) = 43.61$, $p < .001$ were significantly significant. The strength of the polices were also statistically significant, $t(129) = 63.4$, $p < .001$.

Table 4

One-Sample Statistics (N =129)

	Mean	Std. Deviation	Std. Error Mean
Overall-CS	39.15	15.91	1.40
Overall-SS	14.92	15.30	1.34

Note: CS = Comprehensiveness Score SS = Strength Score

Data results from the WellSAT 2.0 were used to answer RQ2. Each district was placed in one of four geographical regions and cross-referenced with the answer to question four of the wellness policy survey. The geographic regions and number of district wellness policies retrieved from the GaDOE are depicted in Table 5 as well as the number of superintendent survey responses received from each region.

Table 5

Geographic Region Data

	Wellness Policies	Survey Responses
Northern Georgia	32	10
Greater Atlanta	23	4
Southeastern Georgia	37	12
Southwestern Georgia	37	11

District geographical data were collected and used to conduct an ANOVA to determine if differences lie within four geographical region groups (Northern Georgia, Greater Atlanta, Southwestern Georgia, Southeastern Georgia). Data were cross-referenced with the wellness policy survey to ensure the school districts were placed in the correct region. Normality was checked for each grouping using skewness to measure the degree of symmetry of the distribution and kurtosis to measure the degree of peakedness (Mertler & Vannatta, 2010). The comprehensiveness normality tests showed skewness and kurtosis levels were within the range of -1 and 1 for each group. The ANOVA results revealed there was not a significant difference between the geographical regions comprehensiveness scores for the four conditions $F(3, 125) = 1.96$, $p = .123$. Though the results did not indicate a significant difference between geographical regions there was an 8.21 difference between the lowest and highest comprehensiveness mean scores. Further, Cohen's effect size value ($d = .45$) suggested a moderate effect.

An ANOVA was conducted for Georgia public school strength scores. Again, geographical regions served as the between subject factors. The strength normality tests showed skewness and kurtosis levels were within the range of -1 and 1 for each group

with the exception of Southwestern region where the skewness was 2.638 and the kurtosis was 9.026. The ANOVA results indicated there is not a significant difference between geographical regions strength scores for the four regions $F(3, 125) = 1.57$, $p = .199$. The results suggested geographical areas of the state do not differ in the written strength of national required wellness policies. There was a 6.97 difference between the highest and lowest strength score. Cohen's effect size value ($d = .36$) suggested a small effect. The differences suggested if the sample size was larger there could be a significant difference. The mean and standard deviation scores for the comprehensiveness and strength scores are reported in Table 6.

Table 6

Mean and Standard Deviation for Comprehensiveness Score (CS) and Strength Score (SS)

	CS Mean	CS Std. Deviation	SS Mean	SS Std. Deviation
Northern Georgia	34.16	15.27	11.84	10.58
Greater Atlanta	36.84	11.32	11.21	11.74
Southeastern Georgia	42.37	15.65	18.55	17.55
Southwestern Georgia	41.18	17.80	15.70	17.18

Phase 2 Findings

Research Question 3 was used to guide the findings of Phase 2. A survey was developed by the researcher and piloted by 23 school leaders. The results suggested the survey was easy to read and understand. The survey was originally sent to 181 superintendents. Of the 181 email addresses, eight school addresses were unavailable.

Two district superintendents were removed from the list after responding to the email by stating their district did not allow participation in dissertation surveys. A survey reminder was sent three times, 2 weeks apart. The wellness survey final response rate of 22% (37 respondents) was reached. Descriptive statistics were calculated and each item was presented by subscale.

Descriptive Findings

The results of the wellness policy survey were organized by category. Questions one through four were demographic questions. Superintendents from the southeastern region of the state were the highest represented group with 12 (33%) responses. The southwestern region of the state had 11 (30%) responses, North Georgia had 10 (27%), and Greater Atlanta was the least represented with 4 (10%) responses. The southeastern region of the state contains the largest number of school districts (53) and the Greater Atlanta contains the least (22). Of the 37 total respondents, 18 (48%) stated they were the school district's superintendents though only 4 (10%) officially oversaw the district's wellness policy. Many of the school districts served students who qualify for free and reduced lunch with 30 (81%) respondents indicating their school included over 50% of students who qualified for the service.

Analysis of Survey

Funding

Questions 5 through 9 of the Wellness Policy Survey indicated perceptions of funding. Item responses were tallied and results are presented in Table 7. Results of the Wellness Policy Survey revealed 11 (29%) respondents believed the school district did not fully fund wellness initiatives and 14 (37%) respondents believed the school did not

have the proper funding to meet USDA school meal requirements. Respondents indicated a significant loss of funds due to the "smart snack" legislation and regulations on fundraisers. In addition, open response comments reflected 9 (20%) respondents attributed loss of monies to fundraising restrictions mandated in the wellness policy. A participant wrote, "because we have sold only Smart Snacks, our schools have lost funding that they have used to purchase items for the students. Students do not buy as many snacks as they did before." The open responses indicated additional funding was the number one needed resource. Additional funding would aid school districts in hiring personnel solely in charge of student wellness and alleviate the need of fundraising with restricted foods.

Table 7

Funding (N = 37)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Our district has a fully funded nutrition program	7	19	11	0
Our district receives adequate funding to meet the standards required by the USDA.	4	19	13	1
Our district has lost significant fundraising monies due to Smart Snack and fundraising regulations.	9	15	13	0
Our district enforces regulations for food sold for all fundraising (not just during the school day).	2	23	12	0
Marketing of competitive foods provides our schools with financial assistance (example-Coca Cola purchasing scoreboards for schools).	5	24	7	1

Professional Development

The Wellness Policy Survey acquired responses pertaining to professional development and training provided to faculty and staff. Table 8 summarizes the responses relevant to professional development. The survey responses indicated school and nutrition leaders were well trained, teachers were not. Of the 37 respondents, 36 (97%) agreed or strongly agreed the school leaders and food and nutrition department personnel were well trained regarding wellness policies; 12 (33%) respondents suggested

teachers were not trained properly. Comments from the open response questions indicated wellness policy education for parents was a necessity and parental and community education would aid parents in accepting the policies.

Table 8

Professional Development (N = 37)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Teachers who are responsible for teaching Nutrition Education (i.e. Health, Wellness, Physical Education teachers) receive enough professional development to teach successful lessons.	5	20	12	0
Food and nutrition service staff receive job training and professional development.	16	21	0	0
School and food service leaders are trained on the requirements of the mandated wellness policy.	14	22	1	0

A respondent stated, "Acceptance from parents is a huge challenge, and having staff and community involvement on the wellness committee continues to be an issue." Another participants suggested the wellness policies would not be fully implemented until parents were educated because "Parents still want to bring sugary snacks for parties, birthdays, and less healthy lunches for their children." The Wellness Policy Survey responses indicated professional development was not a major impediment to successful wellness policy implementation. The responses were inconsistent with WellSAT 2.0 data. The low professional development strength and comprehensiveness scores on the WellSAT

2.0 suggested lack of professional development was an impediment to implementation of wellness policies.

Time and Prioritization

Four items on the Wellness Policy Survey measured time and priority, both serving as major barriers to successful implementation of the policy. Table 9 reflects 20 (54%) respondents believed leaders and teachers did not have adequate time to address wellness policy requirements.

Table 9

Time and Priority (N=37)

	Strongly Agree	Agree	Disagree	Strongly Disagree
Our teachers and leaders have adequate time to address wellness requirements in their schools.	2	16	15	4
Wellness Policy requirements are regularly discussed with school leaders (Principals/Assistant Principals).	5	15	16	1
Student health, nutrition and physical activity are a priority in our district.	6	27	4	0
Wellness policy requirements are taken seriously in my district.	4	27	5	1

Of the respondents, 17 (46%) did not believe wellness policy requirements were discussed regularly with school leaders, thus indicating the requirements were not

considered a priority of school leaders. Though the majority of respondents felt as though wellness policy requirements were taken seriously in their districts, as a whole they were not a priority. Comments from the open responses indicated investment from school leaders was an issue. Wellness policy requirements were often not a priority for school leaders due to academic requirements and initiatives being of primary significance. One participant noted, "No one feels they have the time to devote to participating in a wellness committee. There is much emphasis on classroom time versus recess time."

Evaluation

The Wellness Policy Survey results indicated district evaluations of wellness policies were ineffective. The evaluation section of the survey contained the most "disagree" selections by 22 (60%) respondents who indicated the districts do not regularly evaluate the policy whereas 20 (54%) respondents suggested the district does not make regular compliance/progress reports to stakeholders. In addition, 15 (40%) respondents stated the wellness committee did not meet regularly to discuss the policy. Phase 2 results were not consistent with Phase 1 results. Phase 1 data results from the WellSAT 2.0 suggested the evaluation process was the strongest section of Georgia public schools' wellness policies as demonstrated in Table 10. The Georgia public school mean comprehensiveness score on the WellSAT 2.0 was 62.6 and the strength score was 30.6 as represented in Table 3.

Open response comments suggested evaluating policies was a challenge due to additional requirements placed on school and district leaders.

Table 10

Evaluation (N = 37)

	Strongly Agree	Agree	Disagree	Strongly Disagree
A district-wide wellness committee meets regularly.	4	15	18	0
Nutrition and physical activity student expectations are shared with all stakeholders	4	11	20	2
Our district is 100% in compliance with the Smart Snack regulations.	3	12	22	0
An evaluation tool is used to regularly evaluate our policy.	1	13	22	1
Regular progress reports on compliance/implementation is made to the school community (Board of Education, superintendent, principals, staff, students and parents) and to the public	2	13	21	1

A participant wrote, "Probably the biggest challenge is the promotion and monitoring of student wellness. School districts have a limited amount of instructional time to incorporate health and wellness into the instructional day, especially at the middle and high school level when course choices give students the opportunity to choose something else besides courses with health and physical activity." Other comments implied a strong leadership team prioritizing a healthy lifestyle is needed to meet requirements.

Summary

Phase 1 findings show Georgia schools were less than adequate in the comprehensiveness of the respective wellness policies, $t(129) = .43.61$, $p < .00$. The strength of the polices was significantly lower than national standards, $t(129) = 63.4$, $p < .001$ indicating the policy did not contain clear, concise language. The results from an ANOVA revealed there was not a significant difference among the Georgia geographical regions' comprehensiveness and strength scores.

Absence of sufficient funding and lack of time for school and district leaders to prioritize and implement the policy were major impediments to successful implementation. Analysis of the survey revealed evaluation as a weakness of Georgia public school wellness policies though the responses were inconsistent with Phase 1 findings. Chapter 5 provides discussion of data, a detailed summary, limitations and needs for future study.

Chapter V

DISCUSSION

With obesity rates on the rise, schools had the opportunity to positively influence student health and wellness. Mandated wellness policies and national nutrition initiatives required school districts to implement education, nutrition promotion, and food and beverage restrictions. A decade after the passing of the Child Nutrition and Women Infant and Children Reauthorization Act (2004) it was still uncertain if wellness policies resulted in significant change in student health or if school districts were successfully implementing requirements (Gaines, Lonis-Shumate, & Gropper, 2011). Results of studies of Local Wellness Policies conducted by Moag-Stahlberg, Howley, and Luscri (2008) and Gaines et al. (2011) showed no policies addressed all the requirements in all standard areas and few policies addressed enough to meet minimal law requirements. The results indicated schools were in compliance with wellness policy requirements, yet were poorly implemented. Additional resources and an advanced measurement tool were needed to evaluate school wellness policies.

Purpose of the Study

The purpose of this study was to discover if Georgia public schools were meeting the national wellness policy requirements and the impediments impacting successful implementation. The study aimed to examine how Georgia public schools' wellness policies compared to the national wellness policies and the extent different geographical regions were implementing the policies. The research questions used to direct the study provided possible factors contributing to the childhood obesity epidemic.

RQ1: Is there a significant difference in the extent Georgia public school wellness policies compare to the national wellness policy requirements?

RQ2: Do geographical regions of Georgia differ as to the implementation of the national wellness policy requirements?

RQ3: What are the perceptions of district wellness coordinators regarding challenges facing districts in implementing the required wellness policy?

Summary of Literature

Regardless of wellness policy requirements the obesity rate was not declining, indicating there may be issues with the mandated wellness policy practice (The Center for Disease Control and Prevention, 2015). Childhood obesity and poor nutritional habits continued to be a national issue. The Center for Disease Control and Prevention (CDC) identified obesity in a child having a body mass index (BMI) score at or above the 95th percentile for children and adolescents of the same age and gender. The CDC data reflected a decrease in obesity for non-school aged children from 2003/2004 to 2011/2012. School age students remained stable at roughly 12.7 million children being identified as obese.

The growing obesity rates can have an immense impact on a nation. Gollust, Niederdeppe, and Barry (2013) claimed longevity, medical costs, and bullying among children are all consequences of the obesity epidemic. Obesity at a young age can negatively impact a child's health and cause diseases such as neurological, pulmonary, endocrine issues, orthopedic and gastroenterological conditions. Other issues such as high blood pressure and cholesterol, as well as diabetes, were medical concerns resulting in an increase in medical care costs for many parents and taxpayers (Li & O'Connell,

2012). Obesity had been associated with negative psychosocial outcomes such as depression and lower self-esteem (Li & O'Connell, 2012). According to Cornette (2011), children who suffered from obesity often had traits associated with eating disorders and, therefore, were more likely to have a disorder. Poor health and depression, which were often effects of obesity, impacted student attendance and academic achievement.

McLeroy's et al. (1988) ecological model of public health demonstrated how an issue results into a public concern and then a public policy. The rise of childhood obesity became a concern to the public and the lawmakers turned to public schools to help resolve the issue. In 2004, Congress required all school districts to develop and implement a wellness policy for the individual school or school system in hopes of eliminating competitive foods lacking nutrition and increasing physical activity and health education. Competitive foods, such as chips, candy and soda were foods not served as part of the National School Lunch Program (NSLP), but bought separately from school cafeterias (NSLP, 2015). Congress and the GaDOE required all school districts to partake in the NSLP and other federally run child nutrition programs and to fully implement a wellness policy by the 2006 school year.

Healthy Hungry-Free Kid Act was established in 2010 (HHFKA) and required schools to adhere to additional wellness requirements such as involving stakeholders in the creation of the policy, making consistent updates to the public and reviewing their policies (Team Nutrition, 2015). The wellness policy requirements were last updated via the Healthy Hunger-Free Kids Act of 2010. Current policies included, but were not limited to, the following:

1. Goals for student health and nutrition education and promotion

2. Guidelines for the availability of food and beverages

3. Documentation to show adherence of the regulations

4. A developed plan that ensures the implementation of the policy

5. Involvement of stakeholders in the creation of the plan.

(Mâsse Perna, Agurs-Collins, and Chriqui, 2013)

Studies showed wellness policies were not being successfully implemented. Mâsse et al. (2013) used the National Cancer Institutes updated School Nutrition-Environment State Classification System to code federal wellness laws and found a misalignment of policy to practice. Moag-Stahlberg, Howley and Luscri (2008) studied 256 Local Wellness Policies (LWP) nationwide (discarding Hawaii) and the results showed no policy addressed all the requirements in all standard areas. Gaines et al. (2011) evaluated wellness policies developed by Alabama public schools. The average Alabama school implementation score was a 79%. Gaines et al. (2011) concluded schools were in compliance, but their policies were not effective.

As of 2008 more schools were adhering to the wellness policies, yet there was no significant decline in childhood obesity (Mâsse et al., 2013). Studies by Agron et al. (2010) and Gaines et al. (2011) depicted reasons as to why childhood obesity is not declining. They found funding to be the number one barrier to successfully implementing wellness policies.

As of July 1, 2014, each state was required to adhere to the Smart Snack Law. This law required school districts to follow a strict policy on competitive foods and beverages as well as food and beverages sold as part of the NSLP. The strict regulations on food and beverages provided a financial challenge to school districts. Organizations

such as clubs, teams, parent-teacher organizations, and school and nutrition departments often received financial support from selling competitive foods. The new Smart Snack Law restricted the selling of non-healthy foods during the school day including foods sold for fundraising (Blad, 2014). According to Agron et al. (2010) additional funding was needed to support organizations and replace lost fundraising money.

Though selling of competitive foods and loss of fundraising money had been a focus of the GaDOE, other concerns were being explored. Cho and Nadow (2004) discovered student preference was a difficult barrier to overcome due to wellness policy requirements of the NSLP (2004). Cullen, Watson, and Zakeri (2008) and Grainger, Runge, and Senauer (2007) found as competitive foods were removed from student choice, students' nutritional choices increased. Greves and Rivara (2006) concluded competitive foods were still in school cafeterias even though the Department of Education strongly suggested they not be sold. The primary reason was the provision of money for school districts through vending machines and the sale of competitive foods such as chips and sodas.

Agron et al. (2010) found lack of time and a lack of priority as barriers to successfully implementing wellness policies. Administrators and district leaders often placed academic related issues above school nutrition, thus causing ineffective implementation. Agron et al. (2010) and Dodson et al. (2009) noted school staff needed training and professional development opportunities to effectively implement the wellness policy. School leaders were often responsible for the school wellness policy. The leaders lacked time, did not prioritize wellness, and were not properly trained to implement the wellness policy requirements.

Resources needed to successfully implement wellness policies may have differed for students of low socioeconomic status. Fradkin, Wallander, Elliott, Tortolero, Cuccaro, and Schuster (2015) revealed students in a higher SES (socioeconomic status) family had a significantly lower chance of being obese than students in a lower SES family.

A student's environment greatly impacted their dietary intake, exercise habits, and overall wellness. Indicators such as socioeconomic status and geographical location contributed to high obesity rates in children. According to the American Psychological Association (2016), African American children were three times more likely than Caucasian children to live in poverty. Fradkin et al. (2015) noted in their research that neighborhoods with high poverty rates had more fast-food restaurants and convenient stores providing high-caloric foods and a lower availability of fresh foods. Fradkin et al. (2015) found a relationship existed between lower SES students and high obesity rates. High poverty neighborhoods tended to have a lack of safe, accessible exercise areas which subsequently contributed to higher BMI scores.

Students who lived in certain geographical locations may have accessed the types of food higher in fat and calorie content. Martz, Anthopolos, Geller, and Maxson (2014) studied the relationship between adolescent obesity and food environment and found adolescents living closer to food specialty stores were 22% more likely to be obese. Penny, Rainham, and Dummer (2013) studied the spatial variation of obesity in geographical locations. The results indicated a need for understanding geographical locations, obesity rates, and appropriate interventions.

Methodology

This study was conducted to gain a better understanding of Georgia school wellness policies by assessing the alignment of school districts' local wellness policies to the national wellness policy requirements. A quantitative research design was most appropriate for this study because it allowed for an examination of Georgia public school wellness policies and analysis of responses from a survey. The Georgia public school wellness policies were collected from the GaDOE and analyzed using online software. A survey was completed by school districts' superintendents or wellness coordinators and used to determine perceptions and impediments of local wellness policy implementation.

This study was conducted in two phases. Phase 1 of this study used a quantitative approach to gain data and information regarding Georgia public school wellness policies. Phase 1 was a study of Georgia public school districts' local wellness policies through the online software WellSAT 2.0. District geographical data were collected and used to perform an ANOVA to determine if differences lie within geographical groups. Phase 2 of this study used a survey research design. Phase 2 examined data collected through a survey to Georgia public school superintendents and district wellness coordinators. Through the use of the survey, school district leaders' perceptions of impediments in implementing wellness policies were found.

Instrumentation

Phase 1 was an examination of the 2014-2015 school wellness policies and was conducted through the online software WellSAT 2.0. The University of Connecticut Rudd Center for Food Policy and Obesity provided the software. The WellSAT 2.0 data were used to find weaknesses among school districts' wellness policies and determined

the extent different regions were implementing the policies. The data was used to address RQ1. The WellSAT 2.0 was used to examine 78 wellness policy statements. The statements were developed from the national wellness policy regulations. The statements were divided into six wellness policy sections: nutrition education, standards for USDA school meals, nutrition standards for competitive foods and beverages, physical education and activity wellness, promotion and marketing and evaluation and communication. The sections addressed the five national wellness policy guidelines. The guidelines were as follows: 1. goals for student health and nutrition education and promotion; 2. guidelines for the availability of food and beverages; 3. documentation to show adherence of the regulations; 4. a developed plan ensuring the implementation of the policy; and, 5. involvement of stakeholders in the creation of the plan.

Phase 1 data were used to answer RQ2. An ANOVA was conducted to compare Greater Atlanta, Northern Georgia, Southeastern Georgia and Southwestern Georgia school districts' comprehensiveness and strength scores. The ANOVA was performed to find if differences lie within geographical groups. Skewness and kurtosis levels were found for each geographical area.

Phase 2 findings were determined through the Wellness Policy Survey and answered RQ3. The survey was sent to 181 Georgia school district superintendents and a 22% response rate was obtained. The survey identified the superintendent and wellness coordinator's perceptions of impediments and needed resources. The survey collected information regarding demographics and school information including free and reduced lunch percentage ranges and geographical locations.

Through the survey process, information was gained regarding the challenges of implementation and resources needed by districts and schools to implement the policies with fidelity. The Wellness Policy Survey was divided into five sections: funding, professional development, time restraints and prioritization, compliance and evaluation, and impediments. Four of the sections were determined through current research and the fifth section entailed open-response questions regarding impediments of implementation.

Summary of Findings

Phase 1 examination indicated Georgia public schools' wellness policies contained the content needed to meet the national requirements; however, the written strength of the policies was not adequate and revealed weak implementation practices. An examination of the 129 wellness policies indicated the policies contained weak, indirect language such as "encourage, attempt, and try." The policy scores suggested the statements were written as future goals or plans and not as action steps. Schwartz et al. (2012) found there was a strong correlation between clear language and successful implementation of policies. Weak language in Georgia public school wellness policies was an indicator for poor implementation of the requirements. The strength scores for all of the standards, with the exception of evaluation, fell below the mean score of 30. In addition, 60 of the 130 policies scored a 10 or below on the strength score suggesting a large number of policies were lacking direct plans for implementation.

The WellSAT 2.0 measured the written quality of Georgia school district wellness policies through six wellness sections. Of the six sections measured, the evaluation standard was rated highest for comprehensiveness and strength scores. The evaluation and communication requirements were mentioned in most policies and written with direct

language. The mean strength score of 30.88 fell well under the top score of 100, but was 15.27 points higher than the next standard. The evaluation standard required schools to develop a committee, select a leader, meet annually to discuss the policy, and report to the community and Board of Education every 3 years. The evaluation process did not require a mandated evaluation form, nor were there implications for not completing the process. The high scores may be due to the lack of evaluation requirements set forth by the federal or state government.

Numerous Georgia school districts' wellness policies lacked comprehensiveness in physical education and activity. Though most policies addressed a form of physical education and student activity levels, the policies did not contain the extent or requirements of mandated programs. The physical education and activity standard contained the lowest mean comprehensiveness score of 22.00 and the lowest mean strength score of 6.91. The wellness policy physical education and activity level requirements were more stringent than the GaDOE physical education requirements. According to the GaDOE (2016), K through 5 schools were required to provide students with 90 contact hours of physical education a year. Schools containing grades 6 through 8 were to make physical education available for students, yet students were not required to take the physical education class. Schools housing grades 9 through 12 required students to complete one semester of a combined physical education and health class for graduation. Physical education had minimal secondary education requirements. Districts focused less on the physical education standard which resulted in low WellSAT 2.0 scores and lacked implementation of the wellness policy.

Phase 1 was used to determine if differences lie in four Georgia geographical areas of Greater Atlanta, Northern Georgia, Southeastern Georgia and Southwestern Georgia. Two one-way ANOVA tests were performed to compare strength and comprehensives scores of geographical areas. The ANOVA results indicated there was not a significant difference between geographical regions strength scores for the four regions $F(3, 125) = 1.57$, $p = .199$. A 6.97 difference was found between the highest and lowest strength score. Cohen's effect size value ($d = .36$) indicated a significance may be found if the sample size was larger. The ANOVA results revealed there was not a significant difference between the geographical regions comprehensiveness scores for the four conditions $F(3, 125) = 1.96$, $p = .123$. Though the results did not indicate a significant difference between geographical regions, there was an 8.21 difference between the lowest and highest comprehensiveness mean scores. Cohen's effect size value ($d = .45$) suggested a moderate effect implying a larger sample size may find significant differences.

No significant differences were found between the Georgia geographical areas suggesting the districts had similar impediments to successful implementation, regardless of the geographical region of the state. School districts having access to programs such as Farm to School, such as Northern Georgia school districts, were subject to the impediments of the required implementation. The Wellness Survey data indicated funding and time were major impediments to successful implementation. Wellness policies were restricting fundraisers and caused schools to lose money. Funding was not being replaced to off-set the loss of money. Wellness policies were not a priority for school leaders due to high demands of academic regulations. Though geographical

regions had access to different resources, the school districts struggled with proper funding, time to complete the requirements, and prioritizing the requirements.

Phase 2 of the study surveyed Georgia superintendents and wellness coordinators to determine perceptions of impediments impacting successful implementation. The results indicated lack of funding was a major concern for district and school leaders, particularly the loss of funding usually gained from fundraising. The wellness policy requirements had drastically impacted money received from fundraising. Student organizations sold candy, ice cream, and other desired student snacks to raise money. The Smart Snack legislation had banned these foods from in-school fundraisers and caused school organizations to lose funds.

The USDA required nutrition standards for snacks and beverages sold in vending machines, school stores, snack carts, á la carte lines, and through in-school fundraising. The standards expected school districts to replace white flour with wheat flour and include whole grain ingredients in USDA lunch (Blad, 2014). The survey results suggested these changes were not favored by students and had drastically decreased participation in the USDA lunch program. A decrease in USDA school lunch participation from 2008 to 2014 caused loss of funding in schools, and, in turn, a reduction in staff (NSLP, 2015).

Existing literature, such as Agron et al. (2010), indicated time and the prioritization of wellness policy requirements were primary concerns of school and district leaders. Leaders prioritized the school academic requirements and duties. School leaders did not often rank wellness policy requirements as a priority. The Wellness Policy Survey responses indicated the wellness policy requirements were overlooked

because of the many academic and legal requirements placed on school leaders. Many of the wellness policy standards went above the required state or national law as seen in the physical education standard. The leaders focused on meeting the legal requirements and not the wellness policy mandate. This was a result of the penalty of not meeting the wellness policy requirements did not cause a loss of funding. The scores from the survey could not be compared to the findings of the WellSAT 2.0 because proper funding was not addressed on the WellSAT 2.0.

Phase 2 results were consistent with Phase 1 results with the exception of the evaluation standard. District leaders' responses indicated school districts were not in compliance with the evaluation section requirements, did not share the policy information appropriately with stakeholders, and did not meet regularly as a committee.

Limitations of Study

Several limitations of the study are recognized. Data were collected from the state of Georgia and findings from this study may not be generalizable to other states. Policy requirements were a federal mandate and other states may have had additional requirements the school districts must follow. Limitations existed in the data collection process. The researcher entered Phase 1 data. The WellSAT 2.0 training of the researcher was through an online tutorial and the data input could have been subjected to researcher bias. Trainings were detailed and self-paced but not assessed. The data input could have been different when entered by another researcher. Phase 2 survey limitations were recognized. The GaDOE provided email addresses for Georgia public school superintendents who served as contacts for the wellness policy. Though superintendents oversaw total school operations, they may not have been directly involved with the

wellness policy. The survey requested the superintendents to forward the survey to the wellness coordinators. The survey results indicated 18 (48%) respondents were superintendents and only 4 (11%) of the superintendents were responsible for the school districts' wellness policy. This suggested superintendents did not forward the email as asked. The extra step of forwarding the email to the wellness coordinators may have caused limitations in the study.

Suggestions for Future Research

The study provided insight as to which national wellness policy standards were not being met by Georgia public schools. As noted in current literature, lack of funding and time were major impediments to successful implementation. Future research may focus on a closer examination of the evaluation standard and the physical education and activity level standard to gain insight to more specific resources needed in school systems to create stronger wellness programs. The evaluation standard may be studied further since the data between Phase 1 and Phase 2 were inconsistent. The WellSAT 2.0 data suggested the evaluation process was strong, yet the survey data suggested the evaluation process was the weakest part of the implementation. The reason for the inconsistency could be studied for future research.

Future research may focus on the impediments of wellness policy implementation in high-poverty schools. The Wellness Policy Survey was answered by 37 participants, 30 (81%) of which served in districts with high-poverty needs. Open comments on the Wellness Policy Survey suggested the wellness policy requirements did not allow for enough calories or quantity of food for malnourished, poverty stricken students who may

not eat at home. This challenge was specific to high- poverty schools and may have been a factor in the inability to meet wellness policy requirements.

Conclusions

The results of this study indicated wellness policies were not being successfully implemented due to insufficient funding, lack of time, and the prioritization of the wellness requirements. The wellness policies were originally placed in schools to help fight childhood obesity, yet the obesity rate had not significantly declined since the wellness policies were mandated. Funding, lack of time, and prioritizing wellness requirements, as depicted by Georgia school districts' superintendents and wellness coordinators, were the major impediments causing schools failure of implementation. This study identified lack of funding as the primary impediment to successful school district wellness policy implementation. Funding of additional staff and professional development was needed for training and resources. Additional funding was necessary to replace money lost due to strict fundraising wellness policy requirements. The Wellness Policy Survey respondents indicated several school districts ignored regulations and continued to sell the restricted foods in order to fund necessary entities. In addition, the lack of participation in required school food programs was causing a loss of funds and, subsequently, a reduction of staff. The appropriation of additional money was needed to replace the loss of fundraising money as well as the implementation of an evaluation tool to aid school leaders in prioritizing wellness policies would aid in attaining improved policies.

Wellness policies were put into place by the national government to help curb childhood obesity and unhealthy living. The Center for Disease Control and Prevention

(2015) reported childhood obesity rates had more than doubled since the 1980s. Data indicated the schools had the required policies yet they were not written with strength or fidelity. Through this study, physical education and evaluation standards were determined to be weak and inconsistent.

Georgia school districts' wellness policies needed improvement. The results in Phase 1 and Phase 2 indicated impediments to successful implementation. Low strength and comprehensiveness scores on the WellSAT 2.0 demonstrated weak written policies. Results from the Wellness Policy Survey suggested more funding and time were needed resources. The results implied school leaders needed to prioritize local wellness policies for implementation to be successful. Future studies are needed to address effective wellness policy implementation.

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APPENDIX A:

Wellness Policy Survey

Appendix A

Wellness Policy Survey

Thank you for taking the Wellness Policy Survey. The survey should take you 10 minutes or less to complete.

From the choices below, select any titles/roles you have within your district other than Wellness Coordinator.

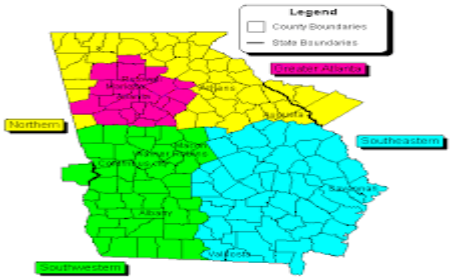
- ❍ Superintendent
- ❍ Assistant Superintendent
- ❍ Director
- ❍ Coordinator
- ❍ Other _____

Using the choices below, indicate how long you have held the position of Wellness Coordinator.

- ❍ Under 5 years
- ❍ 6 to 10 years
- ❍ Over 10 years
- ❍ I am not the Wellness Coordinator

Please select the Free and Reduced lunch category, which best represents your school district.

- ❍ Under 25% Free and Reduced Lunch
- ❍ 26%-50% Free and Reduced Lunch
- ❍ 51% or over Free and Reduced Lunch



Using the map above please indicate which of the four geographical locations your school district is located.

- ❍ Northern Georgia
- ❍ Greater Atlanta Georgia
- ❍ Southeastern Georgia
- ❍ Southwestern Georgia

Please answer the following questions regarding funding.

Our district has a fully funded Nutrition Education program.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Our district receives adequate funding to meet the standards required by the USDA.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Our district has lost significant fundraising monies due to Smart Snack and fundraising regulations.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Our district enforces regulations for food sold for all fundraising (not just during the school day).

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Marketing of competitive foods provides our schools with financial assistance (example- Coca Cola purchasing scoreboards for schools).* Competitive foods are foods purchased by students that are sold outside of United States Department of Agriculture (USDA) school meals. Foods bought from vending machines or al a carte are considered competitive foods (WellSAT 2.0, 2013).

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Please answer the following questions regarding professional development.

Teachers who are responsible for teaching Nutrition Education (i.e. Health, Wellness, Physical Education teachers) receive enough professional development to teach successful lessons.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Food and nutrition service staff receive job training and professional development.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

School and food service leaders are trained on the requirements of the mandated wellness policy.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Please answer the following questions regarding time restraints and prioritization.

Our teachers and leaders have adequate time to address wellness requirements in their schools.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Wellness Policy requirements are regularly discussed with school leaders

(Principals/Assistant Principals).

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Student health, nutrition and physical activity are a priority in our district.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Wellness policy requirements are taken seriously in my district.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Please answer the following questions regarding compliance and evaluation.

A district-wide wellness committee meets regularly.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Nutrition and physical activity student expectations are shared with all stakeholders

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Our district is 100% in compliance with the Smart Snack regulations.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

An evaluation tool is used to regularly evaluate our policy.

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

Regular progress reports on compliance/implementation is made to the school community (Board of Education, superintendent, principals, staff, students and parents) and to the public

- ❍ Strongly agree
- ❍ Agree
- ❍ Disagree
- ❍ Strongly disagree

What challenges does your district face in implementing wellness policy requirements?

What resources do you believe are needed to fully implement wellness policy requirements?

APPENDIX B:

Georgia Zip Code Map Permission

Appendix B

Subject: Permission to use Georgia Zip Code Map
From: Mike Long <mikelong@wavecable.com>
Thu 5:46 PM

To: Elizabeth S Bennett

Elizabeth

You have our permission to use the Georgia ZIP Code Map graphic.

Sincerely

C. Michael Long, President
W E R
P O Box 107
Mill City, OR 97360
503.897.4902
mikelong@ybgolf.com

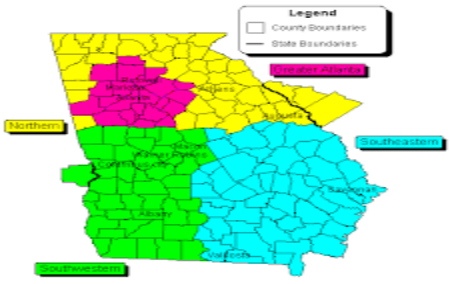
From: Elizabeth S Bennett [mailto:esbennett@valdosta.edu]
Sent: Thursday, May 12, 2016 11:47 AM
To: MikeLong@ybgolf.com
Subject: Permission to use Georgia Zip Code Map

Mr. Long,

Thank you for speaking to me today. As noted in our conversation I am seeking permission to use the Georgia Zip Code Map graphic in my survey. The survey will be sent to 181 educators.

Thank you for your consideration.

The image is below:



APPENDIX C:

Institutional Review Board Report

Institutional Review Board (IRB)
for the Protection of Human Research Participants

PROTOCOL EXEMPTION REPORT

PROTOCOL NUMBER:	**03465-2017**	**INVESTIGATOR:**	**Ms. Elizabeth S. Bennett**
		SUPERVISING FACULTY:	**Dr. Mike Bochenko & Dr. Nicole Gibson**
PROJECT TITLE:	***Examination of Georgia Public School Wellness Policies and the Mandated Implementation Requirements.***		

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **exempt** from Institutional Review Board (IRB) oversight under Exemption **Category 2**. You may begin your study immediately. If the nature of the research project changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research.

ADDITIONAL COMMENTS:

- *Upon completion of your research - all data must be kept securely (locked cabinet/password protected computer, etc.) for a minimum of 3 years.*

☒ ***If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.***

Elizabeth W. Olphie *03/02/2017*
Elizabeth W. Olphie, IRB Administrator Date

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-259-5045.