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AN ANALYSIS OF GEORGIA SCHOOLS' COMPLIANCE AND IMPLEMENTATION OF FEDERALLY MANDATED SCHOOL WELLNESS POLICIES

By
ERYN M. MARCHIOLO
B.S. GUILFORD COLLEGE

A Thesis Submitted to the Graduate Faculty
of Georgia State University in Partial Fulfillment
of the
Requirements for the Degree
MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA

AN ANALYSIS OF GEORGIA SCHOOLS' COMPLIANCE AND IMPLEMENTATION OF FEDERALLY MANDATED SCHOOL WELLNESS POLICIES

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July 9, 2007_____
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Dedication

My work is dedicated to my family and friends. Thank you all for your unending words of encouragement, love and support. Thank you in particular to my parents and my brother, your continued faith and words of motivation have kept me going throughout the past year, thanks for being my biggest cheerleaders!

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Thank you to Dr. Michael Eriksen for your unending supply of patience and your continued faith in me. I would also like to acknowledge my fellow IPH students, thank you to Shaunta' Parker and Nehal Patel for our twice weekly coffee dates over the past few months. Thank you to Janna Sayer and Meredith Jain for encouragement and advice, your phone calls and emails keep me sane. Finally, a huge thanks to my Thesis Committee made up of Dr. Michael Eriksen, Rodney Lyn, and Robin Tanner for your time and assistance to help me complete my thesis credits.

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ABSTRACT

ERYN M. MARCHIOLO

An Analysis of Georgia Schools' Compliance and Implementation of Federally Mandated School Wellness Policies

Under the direction of Michael P. Eriksen, ScD, Director of the Institute of Public Health, Georgia State University

Our nation's youth face health challenges today that are drastically different from the health problems of youth in generations past. The drastic rise in childhood obesity rates prompted the 108th Congress to look for an innovative solution to the problem, mandating that each school district receiving federal funding for Free and Reduced Lunch must create and adopt a local wellness policy. This study examines whether relationships exist between Georgia's school districts' wellness policies and specific demographic characteristics of the district. Dependent variables include compliance, phase of implementation, and presence of a school health council. This study conducted univariate analysis using chi square and odds ratio coupled with binary logistic regression. Analysis shows that percent of minority students, as an independent variable, is significantly associated with compliance with the Child Nutrition and WIC Reauthorization Act.

INDEX WORDS: Child Nutrition and WIC Reauthorization Act, local wellness policies, Diffusion of Innovation, childhood obesity

Chapter I- Introduction

Our nation's youth face health challenges today that are drastically different than the health problems of youth in generations past. Advances in antibiotics and immunizations have largely reduced the morbidity and mortality rates of children suffering or dying from infectious diseases. The health of young people today, as well as the adults they become in the future, is and will be critically linked to the health related behaviors that they choose to adopt at an early age (Hedley et al. 2004). Characteristics such as poor nutrition, sedentary lifestyle, and increased amounts of screen time (such as watching television, using the computer, or playing video games) contribute to today's major preventable causes of death as well as numerous chronic conditions, they also put children and young adults at risk for becoming overweight (Hedley et al. 2004; Ogden et al. 2006).

The percentage of children and adolescents in the United States that are overweight is higher today than ever before. Data from the National Health and Nutrition Examination Survey (2003-2004) shows that 13.9 percent of children between the ages of 2 and 5 have a Body Mass Index (BMI) greater than or equal to the 95th percentile. 18.8 percent of youth ages 6 through 11 and 17.4 percent of adolescents ages 12 through 19 are in the same category (Ogden et al. 2002; Hedley et al. 2004; Ogden et al. 2006). The prevalence of overweight is higher in boys than in girls in the 6-11 age range, and equally prevalent in males and females in the age range of 12 to 19 (Ogden et al. 2006). Obesity prevalence is higher in children and adolescents who are African American and Hispanic, when compared to children and adolescents who are white (Ogden et al. 2006).

The drastic rise in childhood obesity rates prompted the 108th Congress to look for an innovative solution to the problem. In 2004 Congress passed the Childhood Nutrition and WIC Reauthorization Act. This act mandates that every school receiving federal funds for food service programs (serving free and reduced breakfast and lunch to students) must adopt a local wellness policy. At a minimum, each policy must include goals for nutrition education, physical activity and other school-based activities designed to promote student wellness. Additionally, the policies must include nutrition guidelines for all foods available on campus, a plan for measuring implementation, and the involvement of a broad range of people involved in the development of the policy (Public Law 108-265 2004). The mandate does not include extensive standards within each of these requirements; therefore schools have some freedom in the development of these policies, which leads to wide variation district to district.

Schools were given a deadline of July 1, 2006 to have their policies written and adopted. Since the deadline, policies have been written and adopted at varying speeds. The complexity of the policies range from incorporating only the minimum requirements set in the Child Nutrition and WIC Reauthorization Act to lengthier policies creating wellness councils, mandating the use of the School Health Index, revising contracts with outside food and beverage vendors, etc.

To date, there has been no comprehensive national follow-up to measure how many schools do or do not have policies in place. There has also been no follow up to look at existing policies to see if they meet the minimum requirements set forth by

the law. Individual states are beginning to make strides to gather information from all school districts to verify that they have written policies in place (Wechsler 2007).

Georgia Action for Healthy Kids (GAFHK), a statewide chapter of the national non-profit organization, Action for Healthy Kids, developed a survey to assess where each Georgia school district is in the implementation process of their new local wellness policy as well as some of the required and supplemental content of their policies. The survey was disseminated to school nutrition directors at their mandatory annual regional meetings in January-February 2007. Additional demographical data for each district was collected and included district size, racial profile, location of Regional Education Service Agency, percent of students eligible for the Free and Reduced Lunch program, and high school graduation rates.

The aim of this thesis is to examine any relationship that may exist between Georgia's school districts' wellness policies and their demographics. By being able to better identify these relationships, we will be able to prioritize potential intervention strategies in the future. The objectives are threefold and include;

1. Identifying the characteristics associated with having a school based local wellness policy which meets the minimum requirements set forth by the Child Nutrition and WIC Reauthorization Act.
2. Identifying the characteristics associated with having a policy that is actively being implemented district wide, and;
3. Identifying the characteristics associated with having a school health council.

It is hypothesized that smaller districts (≤5000), districts that have a high rate of students qualifying for free and reduced lunch (≥75%), districts with a low graduation

rate (≤70%), and districts with a high proportion of minority students (≥51%) will have policies that do not meet minimum requirements, are not actively implementing their policy, and do not have a school health council.

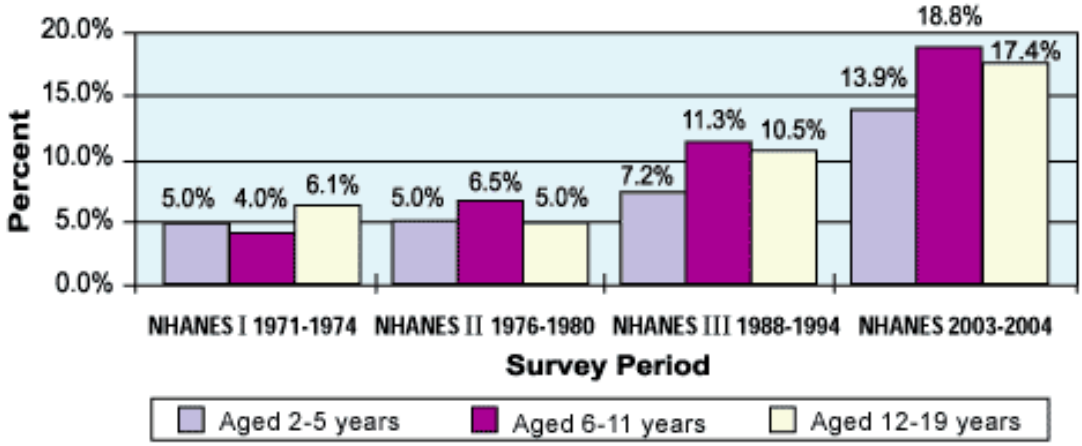
This research will be guided by the Diffusion of Innovation (DOI) theory, which explains how the characteristics of both the innovation and the innovator guide the rate of adoption and implementation. In addition, the Review of Literature will highlight the prevalence of overweight in the United States, the Child Nutrition and WIC Reauthorization Act and the importance of school health policies, DOI and implementation strategies, tailoring policies to specific district needs, and Georgia's unique needs.

Chapter II- Review of Literature

Prevalence of Overweight in the United States

The prevalence of overweight among children and adolescents in the United States has risen dramatically throughout the last four decades. Data from the National Health and Nutrition Examination Survey (NHANES) dating back to 1971 shows that overweight has more than doubled among children who are aged 2-5 and nearly tripled among school-aged children aged 6-19 years (Hedley et al. 2004; Ogden et al. 2006) as seen in Figure 2.1.

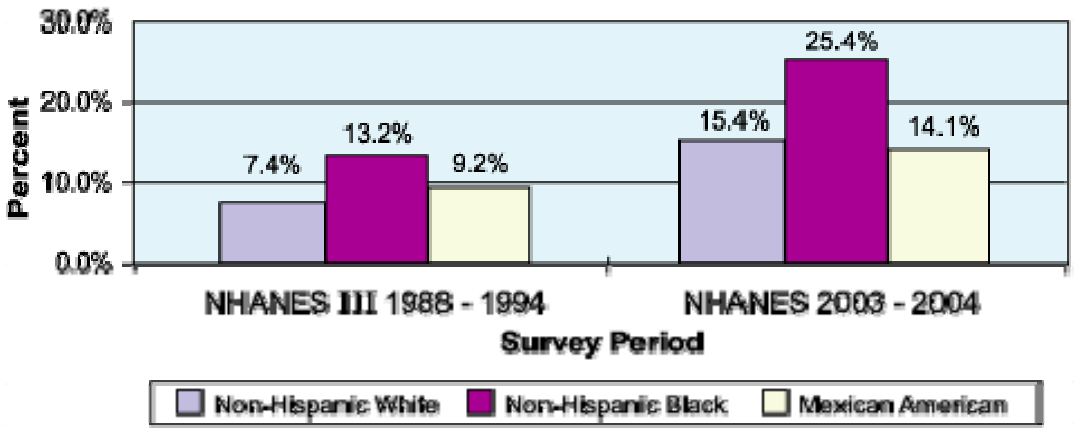
Figure 2.1
Prevalence of Overweight* Among U.S. Children and Adolescents (Aged 2-19 Years)



* Sex and age-specific BMI ≥ 95th percentile based on CDC growth charts
Source: CDC, http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/prevelance.htm

Obesity prevalence is higher in children and adolescents who are African American and Hispanic, when compared to children and adolescents who are white, as reflected in Figure 2.2.

Figure 2.2
Prevalence of Overweight* by Race/Ethnicity



* Sex and age-specific BMI ≥ 95th percentile based on CDC growth charts
Source: CDC, http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/prevelance.htm

In recent years, several weight-related diseases and conditions that were formally observed primarily among adults are becoming increasingly observable in young people (Hedley et al. 2004). Ten years ago, Type II Diabetes, for example, was commonly referred to as "adult onset diabetes" and was almost unknown among children and adolescents. Today, children and adolescents account for nearly 50 percent of newly diagnosed cases (Botero and Wolfsdorf 2005). An increase in high cholesterol and blood pressure also put an estimated 61 percent of overweight youth at risk for heart disease (Botero and Wolfsdorf 2005). In addition to physical difficulties, overweight in youth is also associated with an increased risk for social

and psychological problems, such as low self-esteem and discrimination (Ogden et al. 2002).

Child Nutrition and WIC Reauthorization Act of 2004 and Importance of School Health Policies

With childhood obesity reaching epidemic proportions throughout the United States, the 108th Congress looked for a comprehensive solution which would incorporate healthy habits, nutrition education, and increased physical activity into the lives of American children and youth. On June 30, 2004, President Bush signed the Child Nutrition and WIC Reauthorization Act into law (Public Law 108-265, 2004). Section 204 of this law states that "not later than the first day of the school year beginning after June 30, 2006, each local education agency participating in a program authorized by the Richard B. Russell National School Lunch Act or the Child Nutrition Act of 1966 shall establish a local wellness policy for schools under the local education agency (Public Law 108-265, 2004)." The minimum requirements for local wellness policies include:

1) "Goals for nutrition education, physical activity and other school-based activities (e.g. after-school program or in-class parties) which will promote student wellness in a manner that the local education agency deems appropriate;
2) Nutrition guidelines selected by the local education agency for all foods available on each school campus throughout the school day;
3) Assurance that guidelines for reimbursable school meals shall not be less restrictive than regulations and guidance issued by the Secretary of

Agriculture pursuant to subsections (a) and (b) of section 10 of the Child Nutrition Act and sections 9(f)(1) and 17(a) of the Richard B. Russell School Lunch Act;

4) A plan for measuring implementation of the local wellness policy, including the designation of one or more persons within the local education agency who are charged with operational responsibility for ensuring that the schools meet the local wellness policy; and
5) Involving parents, students, representatives from the school food authority, the school board, school administrators, and the public in the development of the school wellness policy (Public Law 108-265, 2004)."

A copy of section 204 of the Child Nutrition and WIC Reauthorization Act of 2004 can be found in Appendix A.

This act is an increasingly important tool for health promotion because both state and district policies have been recognized to influence both the scope and the nature of the health education programs that students receive (Blake and Sawyer 2005). Previous research has shown that for successful implementation of prevention programs to have the greatest success, support is necessary at the district, campus, and individual implementation level. Research also shows that campus-level administrative support and subsequent program implementation and sustainability are strengthened when there are state and/or district guidelines which exist for a program (Greenberg et al. 2003).

This act provides a new approach to reversing the childhood obesity epidemic. Healthy behaviors such as good nutrition and physical activity are influenced by

many aspects of society, including families, health care providers, government agencies, media and community organizations such as faith based institutions and businesses. It will take the involvement across all social ecological sectors to reverse the epidemic; however, schools play a unique and important role. While schools can't rescind the obesity epidemic on their own, it is unlikely that it will be halted without strong, health-focused school based policies and programs. The Child Nutrition and WIC Reauthorization Act has the potential to reach many youth because over 95 percent of American young people are enrolled in school. It also encompasses about 97,000 or 95 percent of all public schools in the country which are now all required to have a wellness policy (Budd and Volpe 2006; Serrano et al. 2007).

Well-designed and well-implemented school programs have been effective in increasing healthy behaviors such as promoting physical activity, healthy eating, and reduction of screen time (Wechsler 2007). Emerging research has shown there is a connection between physical activity, good nutrition and improved academic performance (Wechsler et al. 2004). It is also important to note that students consume a substantial portion of their daily calories while at school, and most of their physical activity is accumulated during or immediately before and after school (Bauer et al. 2006). These wellness policies give school districts the opportunity to make changes benefiting the health and learning of their students.

Throughout the past school year, two national organizations, Action for Healthy Kids (AFHK) and the School Nutrition Association (SNA) conducted two separate analyses of wellness policy adoption. The AFHK analysis examined policy adoption and content of 112 school districts (AFHK 2007). These districts

represented urban, suburban and rural school districts. The SNA study examined policies representing the 100 largest school districts in the country (SNA 2006). Although it is too early to study the overall effectiveness of the act, based on the districts in these two studies, it appears that the majority of school districts have adopted the mandated policies and that these policies include most, but not all of the requirements set forth in the law.

The AFHK and SNA studies both identified missing required components in the policies analyzed. The AFHK analysis found that many of the policies lacked timeframes and measurable objectives. Forty percent of the policies analyzed did not specify who was responsible for policy implementation (AFHK 2007). The SNA analysis found 37 percent of the policies studied had a broad policy with no specific procedures for implementation. Thirty five percent of the policies reviewed included minimal to no plans in regards to implementation and 26 percent included very specific details about the implementation procedures (SNA 2006). The policies studied by SNA ranged in length from 1 page to 20 pages, with the average policy being approximately 5 pages. In addition to SNA and AFHK, the Centers for Disease Control and Prevention's Division of Adolescent and School Health have been following the implementation process of school wellness policies closely.

In a statement to the Education and Labor Committee within the United States House of Representatives, Howell Wechsler (Director of the Division of Adolescent and School Health at the Centers for Disease Control and Prevention) stated that at least 40 states have produced policy guides and resources to aid local education agencies in the drafting of their policies (Wechsler 2007). He went on to say that 18

states disseminated their own model wellness policies and 9 states have passed laws or adopted regulations that establish content requirements which go beyond those required by the federal government. Finally, Wechsler mentioned that at least 15 state legislatures or state boards of education have adopted their own requirements which are intended to strengthen policy evaluation and accountability (Wechsler 2007).

While the Child Nutrition and WIC Reauthorization Act has the ability to make a large impact, the likeliness to effect student's behaviors and health will rely heavily on local wellness policy implementation strategies throughout the states collectively and within the individual school districts specifically. Gaining the support of teachers and staff within the district is vital to the implementation strategies throughout school districts, as well as, the external support of the community. Based on this premise it would be beneficial to look to the Diffusion of Innovation theory for guidance in implementation strategy.

Diffusion of Innovation and Implementation Strategies

Diffusion of Innovations (DOI) is a theory that explains the acceptance and conformation to a new innovation. Webster's dictionary defines *diffusion* as "the process by which an innovation is communicated through certain channels over time among the members of a social system." *Innovation* is defined as "an idea, practice or object that is perceived as new by an individual or other unit of adoption (Webster's 1997)." Based on these definitions, it can be derived that DOI helps to explain the process of social change.

Why do certain innovations spread throughout a particular social system faster than others? The characteristics of the innovation, as perceived by the members of the social system, determine the rate of adoption. These characteristics include (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability. In his comprehensive book, *Diffusion of Innovation*, Everett Rogers defines these characteristics of change as:

1. Relative advantage- The degree to which an innovation is perceived as better than the idea that supersedes it.
2. Compatibility- The degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters.
3. Complexity- The degree to which an innovation is perceived as difficult to understand or use.
4. Trialability- The degree to which an innovation may be experimented with on a limited basis.
5. Observability- The degree to which the results of an innovation are observable to others (Rogers 1995).

Rogers noted that innovations that are perceived by individuals to have greater relative advantage, compatibility, trialability, observability and less complexity will be adopted on a more rapid basis than other innovations (Rogers 1995).

Special action may need to be taken in regards to the diffusion of local wellness policies. These policies are viewed as *preventive innovations*. Preventive innovations are new ideas that require action in the present to avoid unwanted consequences at some point in the future (Rogers 1995). The rationale behind the

Child Nutrition and WIC Reauthorization Act is to create a school environment which encourages healthy behaviors now to avoid an increase in the rate of childhood obesity in the future. The decrease in rates of childhood overweight as a result of implementing local wellness policies in the present will be delayed in time; therefore, the relative advantage of local wellness policies is fairly low. Research has shown that relative advantage is the most important predictor for the adoption of innovation; this is one reason that local wellness policies may be adopted at a slow rate and why it is increasingly important for public health practitioners to work harder to increase the level of perceived advantage (Rogers 2002).

Interventions that aim to increase the relative advantage of adopting local wellness policies could potentially speed up their rate of adoption. Several strategies are suggested throughout literature to increase the relative advantage of a preventive innovation.

The first suggested strategy is utilizing a champion to promote preventive innovations. A champion is an individual who devotes his or her personal influence to encourage the adoption of an idea, such as a preventive innovation (Goodman and Steckler 1989). A champion could be any person ranging from a celebrity to a local elected official to a peer. Champions' tend to make great advocates, actively working to make a change in society. It is important for a champion to understand the history of the issue, have a focused message, and always be concise and informative (Crocco 1999). A champion could be used to promote the present benefits of adopting a wellness policy, such as immediate health and fitness of the students.

Using entertainment-education messages, sometimes referred to as "edutainment," is another suggestion (Singhal and Rogers 1999). Edutainment combines education and entertainment to bring about positive changes in attitude and behavior. Edutainment is used to influence social norms and can have a powerful effect in the transmission of culture (Steckler et al. 1995). Using edutainment would be a great way to create an awareness of the existence of local wellness policies to the community. It would also be a great way to reinforce the health messages that students receive at school as a result of the policy.

The final suggestion is activating peer networks to diffuse preventive innovations (Martin et al. 1998). This is increasingly important because most individuals do not evaluate an innovation based on scientific merit, but through subjective evaluations of peers who have already adopted the particular innovation (Rogers 2002).

Increasing the relative advantage of local wellness policies is challenging because several other barriers have been reported which may work against or delay the rate of diffusion and adoption. The Illinois Wellness Policy Task Force released a report in January 2006 highlighting the barriers that they identified in terms of gaining support for their local wellness policy. The task force identified 27 original barriers and then prioritized and ranked their top five. All of the top five barriers are obstacles that are generalizable to states across the country, in addition to Illinois. The top identified barriers are also consistent with findings of the National School Nutrition Association in their report "*Local Wellness Policies: A Survey of the Progress and Policies being developed by Local School Districts* (SNA 2006)."

The first reported barrier states that schools are already dealing with other priorities that are perceived as having more significance to the current needs of the district (Illinois 2006). Educational leaders are faced with competing demands and are faced with many difficult choices about priorities. For example, the No Child Left Behind Act (NCLB) constantly challenges schools to increase the academic achievement levels of their students. They struggle to meet the requirements of NCLB, as well as other mandated state-level testing. This contributes to low perceived compatibility between the new local wellness policies and the school districts- the policies are not reflective of the school districts current values and needs.

The second identified barrier by the Illinois Task Force is that policy development and implementation are not viewed as requiring a coordinated team approach (Illinois 2006). Unfortunately, in many school environments, health and wellness is seen as the responsibility of the school food services staff, nurses, and health and physical education teachers. For local wellness policies to be as effective as possible, it is imperative to have buy-in from staff, students, parents, and community members throughout the district. The Institute of Medicine states that "the essential foundation for any successful comprehensive school health program is built from the involvement of a wide range of community stakeholders (IOM 1997)." One way to increase buy-in and compatibility of the policies would be to encourage a broad range of employees and community representatives to participate in the development and implementation of their district's wellness policy (this is one of the minimum requirements of the law).

Lack of resources available to schools, such as time, money, and facilities, is the third ranked barrier and is seen as an obstacle to implementing new policies (Illinois 2006; SNA 2006). Schools struggle to balance instructional time and elective activities within the school day. It is important for school staff to learn how to incorporate wellness messages into already existing curriculum and physical activity into available facilities. This barrier contributes to a low levels of trialability and high levels of complexity.

The fourth barrier is a lack of awareness that exists on the relationship between wellness issues and academic achievement. While health promoters and practitioners are aware of the evidence-based link between nutrition, physical activity, and learning, many school and community stakeholders are not. This contributes to a lack of observability. In order for stakeholders to fully comprehend the potential impact, efforts must be made to expand their level of understanding in terms of the connection between health and learning. As previously discussed, public awareness campaigns and the utilization of a champion or peer network may be effective methods of diffusing this awareness.

The final barrier ranked by the Illinois Wellness Policy Task Force states that schools fear a loss of their revenue stream. Many school districts depend on money generated from the sales of snack food items from vending machines and fundraisers. If a district is hesitant about wellness policies effecting revenue, it will decrease the level of trialability of the policy. Disseminating examples of successful alternative programs that generate revenue may help alleviate these concerns. It may also be necessary for school districts to identify healthier options for vending and fundraisers

if they still choose to raise extra funds through those means. Examples of successful alternative vending and fundraising options have been collected and published by non-profit groups such as Action for Healthy Kids and the California LEAN Project.

Once a policy has been adopted, there are challenges to implement it well. Although there are often challenges with effectively implementing new policies, there are several variables that are key to achieving quality implementation (Dusenbury et al. 2005). The first variable is *dosage*. People throughout the school district including staff, students, parents, and community members need to be provided sufficient exposure to the program. The second key variable to assure high quality of implementation is *adherence*. It is important to always follow the policy as it was written and not stray from its original design. Another key variable is *quality of process*- engaging stakeholders through their active participation. A fourth variable is *adaptation,* modifying the program to meet developmental and cultural needs of program recipients (Dusenbury et al. 2005) .

In addition to characteristics of the innovation itself (observability, trialability, etc.), DOI also describes characteristics of the adopter. DOI theory explains that characteristics of an individual or unit (such as a school district) may predict their speed in adopting the new innovation. There are five adopter categories or classifications to which members of a social system fit in terms of their rate of adoption: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards (Rogers 2002).

The *innovators* are the first people within a system to adopt an innovation. It is often observed that the innovators are of a higher socioeconomic status when

compared to later adopters (Ryan and Gross 1943). The innovators are often the least likely to need the innovation in question, but have the necessary resources to adopt it (Dearing 2004). The innovators represent the first 2.5% of people to adopt a new idea (Rogers 1995).

The *early adopters* comprise the next 13.5% of individuals within a social system to adopt the new idea (Rogers 1995). Early adopters are more integrated throughout a social system than the innovators are. This adopter category, more than any other, has the highest level of leadership and influence. Potential adopters look to the early adopters for opinion, advice, and information about an innovation (Ryan and Gross 1943). The early adopter's role is increasingly important because as previously stated, most individuals do not evaluate an innovation based on scientific merit, but through subjective evaluations of peers who have already adopted the particular innovation.

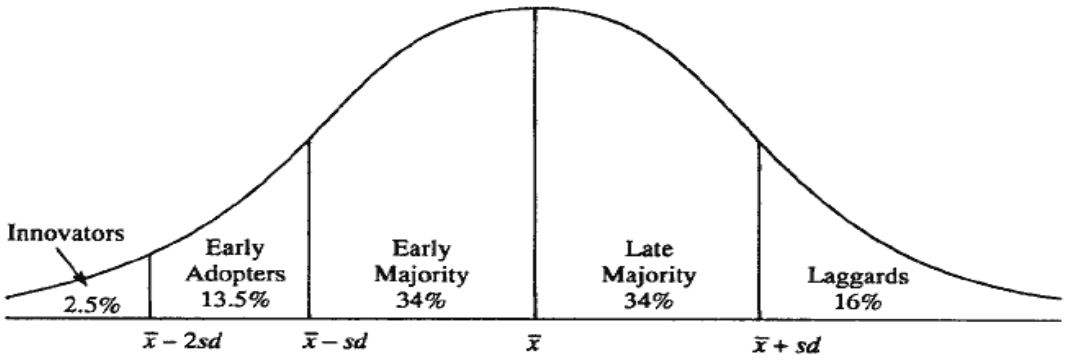
The *early majority* is composed of the next 34% of individuals within a system to adopt the new innovation. Rogers identified 4 characteristics that are dominant in the early majority; (1) they interact with peers frequently, (2) they seldom hold positions of opinion leadership, (3) they comprise almost one-third of the members within the social system and (4) they are very deliberate before adopting a new idea. The early majority tend to be followers rather than leaders (Rogers 1976).

The *late majority* is the next 34% of individuals to adopt the idea. The late majority is made up of individuals who easily succumb to pressure from others. They tend to be extremely cautious and skeptical of innovation and typically adopt ideas due to economic necessity (Rogers 1976).

The *laggards* make up the last 16% of the social system. This last category of adopters will only accept a new idea when they are surrounded by peers who have already adopted the idea and are satisfied with the innovation. Rogers has identified several characteristics that are common to the laggards including (1) they possess no opinion leadership, (2) they tend to isolate themselves, (3) they are very suspicious and resistant of new ideas or innovation, (4) their innovation decision process is extremely lengthy and (5) they usually have little to no resources (Rogers 1995).

The five adopter categories are reflected in the Figure 2.3.

Figure 2.3
DOI Adoption Categories



*Source: Rogers 1995

Knowing and taking consideration of the characteristics of the innovation and innovator is important, especially when accounting for school districts that have certain demographic characteristics that may predispose their students to health disparities. Districts with a high prevalence of low-income or minority students have the opportunity to create plans for positive change, through their wellness policy, that are specifically tailored to their own unique needs, goals, and resources.

Tailoring Policies to Specific District Needs

"Health disparities" refer to the gaps that exist in the quality of health, as well as health care, across racial, ethnic, and socioeconomic groups. The Office of Minority Health defines *health disparities* as "population specific differences in the presence of disease, health outcomes, or access to health services (OMH 2006)." Both racial and socioeconomic disparity in health are so profoundly evident in residents of the United States that *Healthy People 2010* has selected "the elimination of health disparities" as one of its two overarching goals for its national health objectives to achieve over the first decade of the new century (HP2010 2000) .

Within the United States, health disparities are well documented in minority populations such as African Americans, Asian Americans, Native Americans, and Latinos. When these racial/ethnic groups are compared to whites they are shown to have higher incidence of chronic disease, higher mortality rates, and poorer health outcomes (Goldberg et al. 2004). One specific example is that African Americans and Latinos have approximately twice the risk of whites of developing diabetes. Minorities also have a higher rate of cardiovascular disease, HIV/AIDS, and infant mortality in comparison to whites (Goldberg et al. 2004). National Health and Nutrition Examination Survey data shows that obesity prevalence is higher in children and adolescents who are African American and Hispanic, when compared to white youth and adolescents (Ogden et al. 2002).

People with a lower socioeconomic status (SES) have been consistently linked to having poorer health outcomes when compared to persons with a higher SES (Gordon-Larsen et al. 2003). Similarly, research has shown that children belonging to

minority groups also have poorer health outcomes (Chen et al. 2006). Research showing this connection could easily make the case that school districts that have a higher prevalence of economically disadvantaged or higher percent of minority students, or both, should work harder to write comprehensive policies and implement them, due to the inherent health disadvantages ultimately experienced by their students.

While the obesity epidemic is widespread and felt throughout every community in the United States, it may have a more profound impact on youth from low-income communities due to their inadequate healthcare or lack of resources. In addition to the barriers previously identified by the Illinois Wellness Policy Task Force and the National School Nutrition Association, other considerations need to be taken into account when developing a district-wide plan that is tailored to the needs of these children. Low-income children tend to live in households with limited food budgets and are more likely to be at risk for hunger, they may also have limited access to nutritious foods outside of school due to financial constraints. Safety concerns in low-income neighborhoods, lack of recreational facilities such as parks or playgrounds and no financial means to participate in organized community sports may limit low income children's opportunities for physical activity (FRAC 2006). School districts play a vital role in low-income students' health by having the ability to provide them with healthy foods for two meals a day, five days a week and opportunities for physical activity in a safe and supervised environment. The Child Nutrition and WIC Reauthorization Act is a federal mandate that seeks to assure that

schools are providing students with the healthiest meals possible and while providing them opportunity to be physically active.

The high rates of overweight among low-income and minority children combined with the adverse health effects of childhood obesity, are likely to lead to continued disparities among minority and low income youth. Effectively addressing these disparities may require looking past physical activity and nutrition behaviors and understanding how ecological aspects such as social, cultural, and economic environments of minority and low-income children may magnify the effects of factors associated with obesity (Kumanyika and Grier 2006).

Research has shown low income and minority youth are disproportionately exposed to marketing via television. African Americans and Hispanics spend more time watching television and playing video games when compared to white youth (Roberts 2004). High levels of media use contribute to high levels of exposure to food advertising, which can affect children's food preferences even after brief exposure (Roberts 2004). A study of Latino preschoolers and media use by Borzekowski and Poussaint showed that 55 percent of Latina mothers surveyed said that within the past week their preschool aged child had asked for an advertised food or drink. Sixty-seven percent reported that their preschooler had asked to go to an advertised store or restaurant (Borzekowski and Poussaint 1998). In addition, a content analysis of television advertising by Tirodkar and Jain, found that television shows featuring African American characters have more food commercials in general, and specifically more energy dense food commercials when compared to general prime-time shows (Tirodkar and Jain 2003).

Limited access to healthy foods may also characterize the communities that low-income and minority youth live in. When compared to communities with a higher SES, minority and low-income neighborhoods tend to have fewer supermarkets and convenience stores that keep an affordable stock of fresh and quality foods, such as whole grains, produce, and low-fat products (Nayga and Weinberg 1999; Moreland 2002). With fewer supermarkets available, families may shop more frequently at small corner stores or bodegas, that offer more restrictive, and often, more expensive choices. African American and low-income neighborhoods also tend to have more fast food restaurants as an unhealthy alternative to fresh foods (Pereira 2005).

Local school wellness policies can work to diminish these barriers through environmental and policy changes, education and awareness campaigns, as well as behavior modification. However, it may be difficult. Working to increase the levels of relative advantage, trialability, observability, and compatibility will be imperative within these communities. Working with a champion to promote wellness policies may be essential within these neighborhoods.

In addition to low-income or minority school districts, there may be disparities based on the district's size or classification as rural or urban. A study conducted by Nancy Brener et. al used data from the 2000 School Health Policies and Programs Study (SHPPS) to study the variation in school health and wellness policies and programs based on demographic characteristics. SHPPS provides nationally representative data which was collected from faculty and staff using onsite, computer assisted personal interviews. Brener and colleagues linked the SHPPS data with

school characteristics to see if any patterns existed. Although this particular study focuses at the school level, the information gained is still applicable to this thesis, by providing information on the relationships between health policy and demographics.

The Brener study concluded that no one type of school is more likely than another type to have all key aspects of a quality school health program, however it did find some consistent patterns. Results show that rural and smaller schools are less likely to have key health policies and programs in place, when compared to their urban, larger counterparts. Predominantly white, rural schools are more likely than urban schools to have health education coordinators and to make their physical activity facilities available to the outside community. Larger schools are less likely to have acceptable teacher-to-student ratios in physical education classes and are more likely to offer fast food on campus and unhealthy food items for sale at lunch (Brener et al. 2003). This study could prove to be very useful for schools and districts to use to assess their current mandated policies and make alterations based on the deficits of schools sharing similar characteristics.

Georgia's Unique Needs

Georgian youth could benefit immensely from well implemented school district wellness policies. The prevalence rates of childhood overweight in Georgia today are four times higher than the national average in 1971 (Lewis et al. 2006). The Georgia Department of Human Resources, Division of Public Health, and the Georgia Department of Education conducted the 2005 School Student Health Survey Report. The purpose of this report is to monitor priority health behaviors that commonly put

youth at risk for suffering high rates of morbidity, mortality, and social problems. The Georgia Student Health Survey Report serves the purpose of monitoring risky behaviors and the overall progress of programs and policies designed to reduce these behaviors (DHR 2005). The data will be beneficial to serve as a baseline to compare with future Student Health Survey data to assess the impact of school district wellness policies statewide.

The following figures have been adapted from the 2005 Georgia Student Health Survey. All numbers within the charts are reflective of percentages. According to survey data, 16 percent of Georgian middle school students are obese. Significantly more male middle school students than female students are obese and Black students are more likely than White or Hispanic students to be obese. 12 percent of high school students in the state are obese, with significantly higher percentage of Black students compared to White (DHR 2005).

Figure 2.4
Obesity by Race/ Ethnicity: Georgia Middle Schools

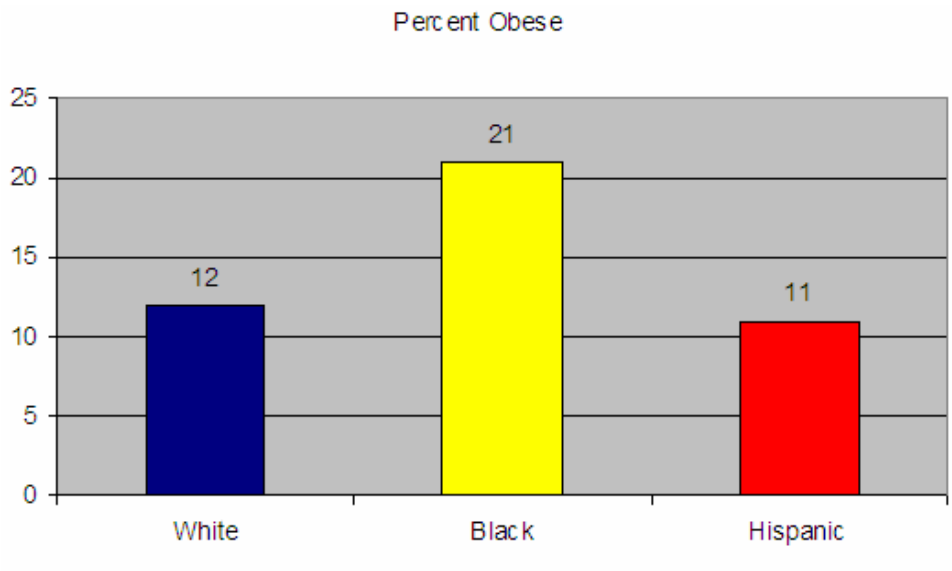
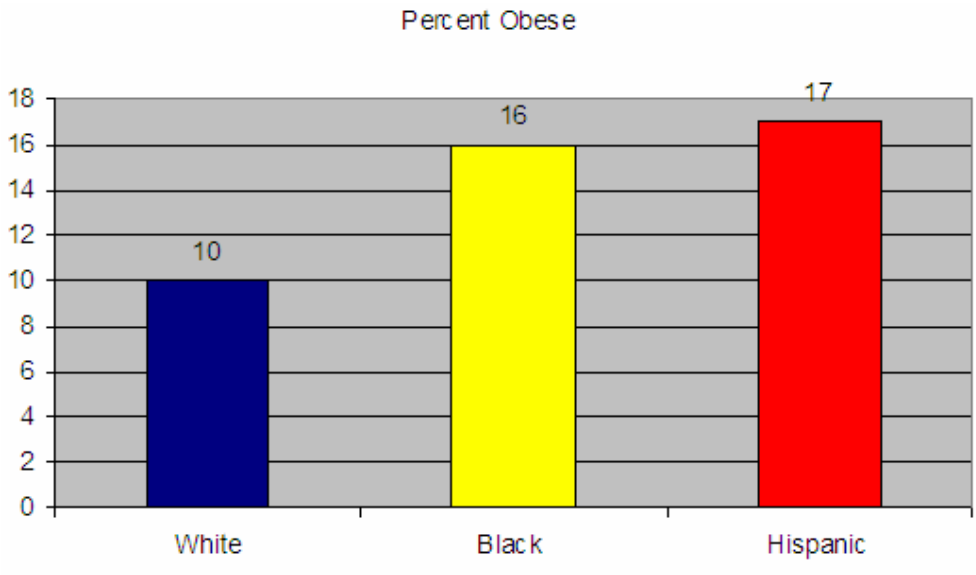
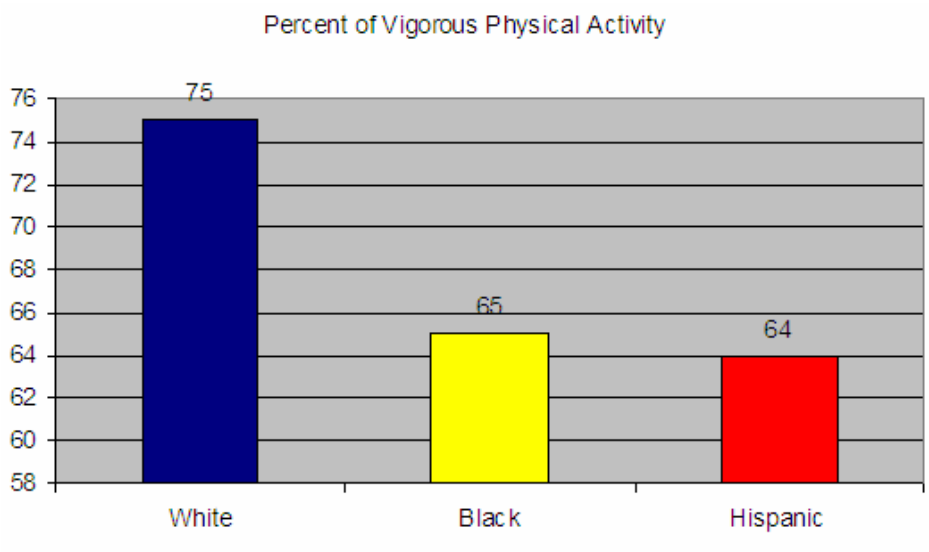


Figure 2.5
Obesity by Race/ Ethnicity: Georgia High Schools



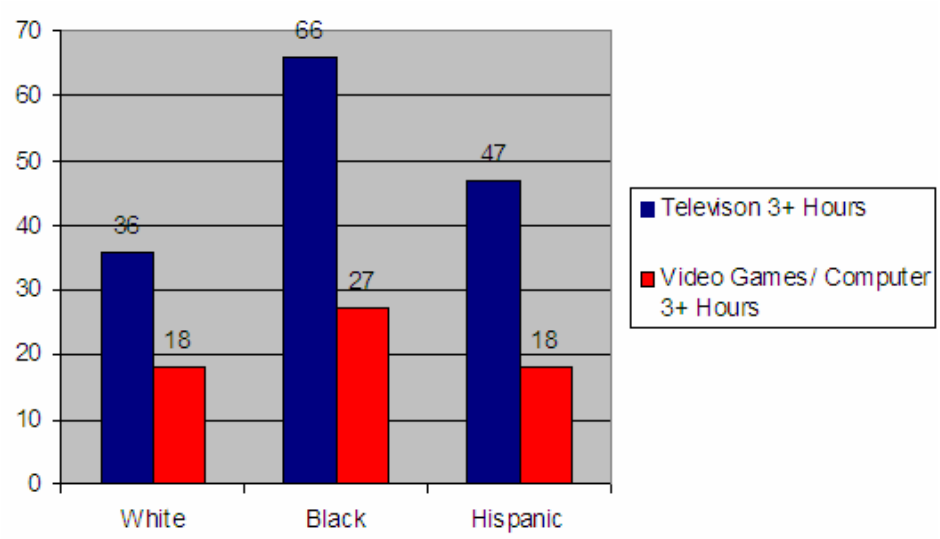
Significantly more White middle school students than Black or Hispanic are likely to participate in vigorous exercise (DHR 2005).

Figure 2.6
Physical Activity by Race/ Ethnicity: Georgia Middle Schools



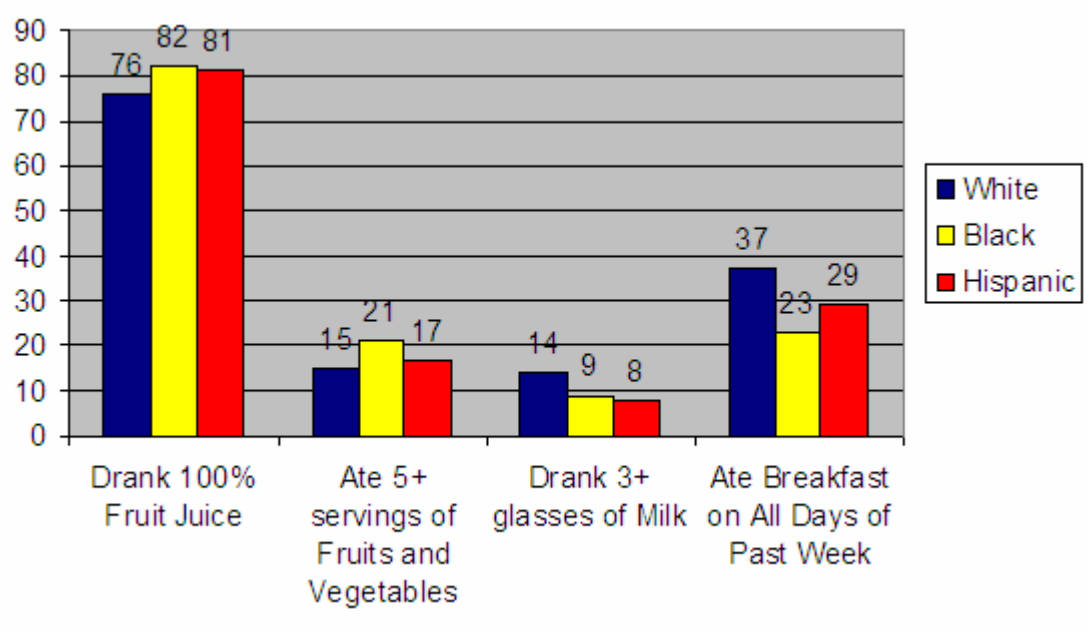
Significantly more Black middle school students than White or Hispanic watch three hours or more of television per day on an average school day. In addition Black middle school students are more likely than White to spend three or more hours a day playing video or computer games or using a computer for something that is unrelated to school work (DHR 2005).

Figure 2.7
Sedentary Behaviors by Race/Ethnicity: Georgia Middle Schools



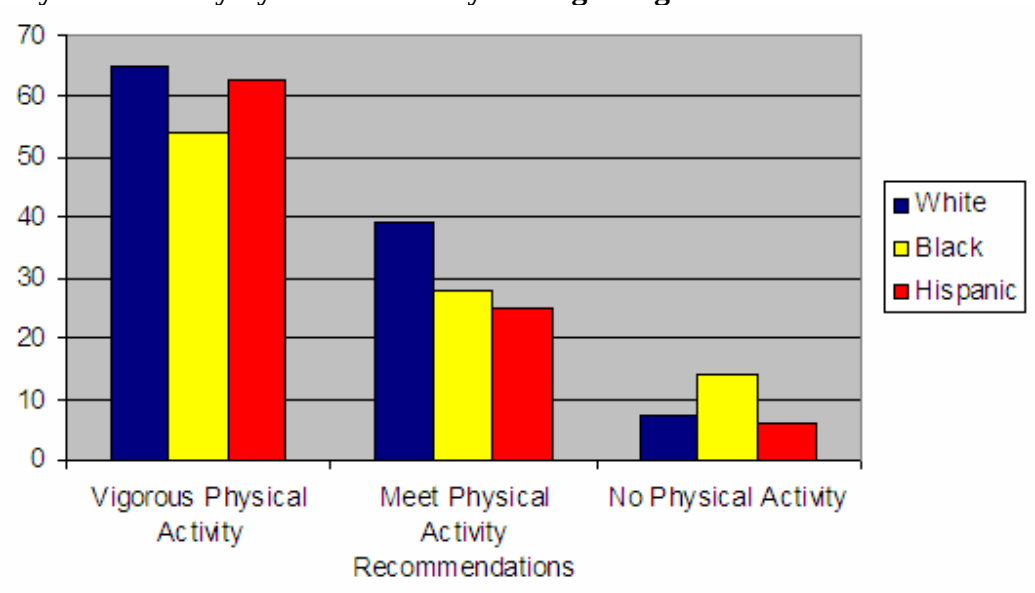
White high school students in Georgia are more likely than Black students to drink three or more glasses of milk per day in the last seven days and to eat breakfast everyday. There are no significant differences between racial and ethnic groups for drinking 100% fruit juice one or more times within the past seven days or eating five or more servings of fruits and vegetables per day in the past seven days (DHR 2005).

Figure 2.8
Nutritional Behaviors by Race/Ethnicity: Georgia High Schools



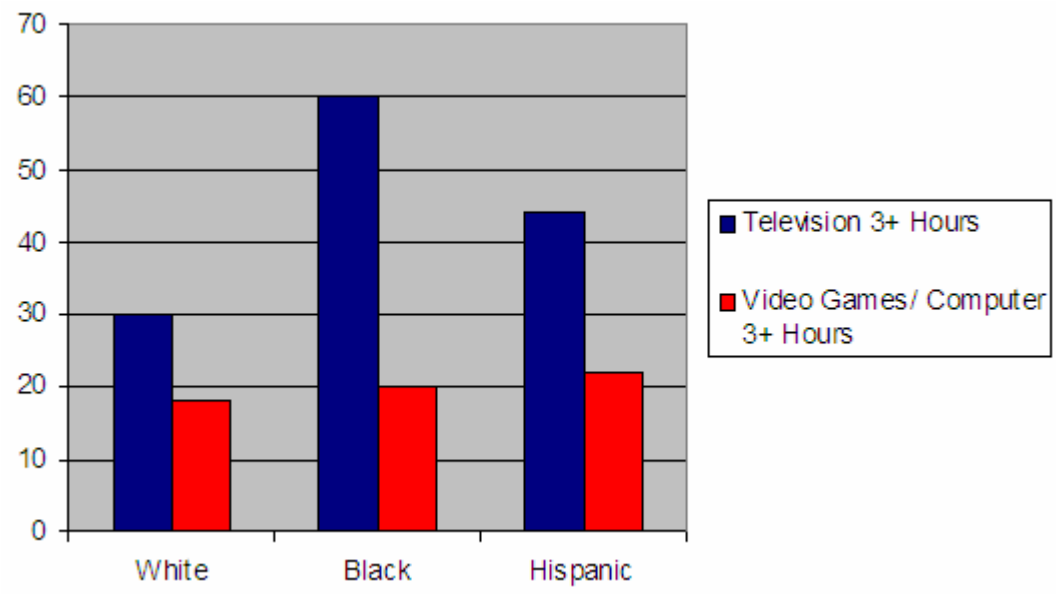
Significantly more White high school students than Black participate in vigorous physical activity and are also more likely than Black or Hispanic students to meet current physical activity recommendations (DHR 2005).

Figure 2.9
Physical Activity by Race/Ethnicity: Georgia High Schools



Significantly more Black high school students watched three or more hours of television on an average school day. There was no statistical significance between racial and ethnic groups and students who played video or computer games for three hours or more on an average school day (DHR 2005).

Figure 2.10
Sedentary Behaviors by Race/Ethnicity: Georgia High Schools



Additional studies have found similarly alarming statistics based on the extent of overweight suffered by Georgian youth. The Georgia Childhood Overweight Prevalence Survey (GCOPS) found that 20 percent of 4th, 8th, and 11th graders throughout the state were overweight (Lewis et al. 2006).

Based on the preceding statistics, there is clear need for wellness policies within Georgia's school districts. Georgia Action for Healthy Kids (GAFHK) has taken a very proactive approach to helping districts in Georgia work towards implementation of their local wellness policies. During the 2006-2007 school year the GAFHK team, along with the Georgia Department of Education hosted a satellite training titled "*Implementing School Wellness Policies: A Team Approach*." The satellite broadcast was available at Regional Education Service Agencies across the state. The purpose of this training was to provide participants with resources that would help implement, evaluate, and maintain strong policies. The training also provided time for districts to share some of their own best practices with their peers from their own wellness policies.

In addition, GAFHK has developed a wellness policy toolkit and interactive website. The toolkit includes the GAFHK Wellness Policy Guide for Development, GAFHK Wellness Policy Guide for Implementation, and Power Point presentations that were used at the satellite training. The website allows people to identify important resources, and ask technical assistance questions from a diverse team across the state and receive prompt responses.

There are multiple resources in place for school district's in Georgia to utilize within the drafting and implementation phases of their wellness policies (GAFHK,

health district health promotion coordinator's, Georgia Physical Activity and Nutrition Coalition, etc.). These resources could provide technical assistance or feedback for existing wellness policies.

The next step needs to be collecting state wide data on existing wellness policies to use to determine where to go from this point. If an initial baseline collection of data existed, the Georgia Department of Education could draft an action plan for the next few years to assist with implementing and measuring the impact of the Child Nutrition and WIC Reauthorization Act.

Chapter III- Methods and Procedures

The aim of this thesis is to examine any relationship that may exist between Georgia's school districts' wellness policies and their demographics. The objectives are threefold and include;

1. Identifying the characteristics associated with having a school based local wellness policy which meets the minimum requirements set forth by the Child Nutrition and WIC Reauthorization Act.
2. Identifying the characteristics associated with having a policy that is actively being implemented district wide, and;
3. Identifying the characteristics associated with having a school health and wellness council.

It is hypothesized that smaller districts (≤5000), districts that have a high rate of students qualifying for free and reduced lunch (≥75%), districts with a low graduation rate (≤70%), and districts with a high proportion of minority students (≥51%) will have policies that do not meet minimum requirements, are not actively implementing their policy, and do not have a school health and wellness council. The validity of this hypothesis will be tested using information gained from a Georgia Action for Healthy Kids (GAFHK) survey with a subsequent demographic analysis.

The Georgia State University (GSU) Institutional Review Board (IRB) reviewed and approved IRB protocol for the following study on March 3, 2007. The principal investigator of the study is listed as Michael P. Eriksen. The student principal investigator is Eryn M. Marchiolo. The protocol department is the GSU

Institute of Public Health. The submission type is listed as Protocol H07345 and review type is exempt. The Federal Wide Assurance number for the study is 00000129.

Action for Healthy Kids (AFHK) is a national nonprofit organization that was formed specifically to address the epidemic of overweight, undernourished and sedentary American youth by focusing on changes within the school environment. There are AFHK chapters in all of 50 states and the District of Columbia, all of whom focus on improving children's nutrition and increasing physical activity, which in return improves children's readiness to learn (AFHK 2007). GAFHK was formed in 2002, it's mission for the 2006-2007 school year was to provide technical assistance and guidance to Georgia's school districts as the districts developed and implemented their local wellness policies (GAFHK 2007).

The Georgia Team, in partnership with the School Nutrition Program within the Georgia Department of Education created a survey in the fall of 2006 to be disseminated to district level school nutrition directors in early 2007. The focus of this survey was to assess where each school district is in the implementation process of their new local wellness policies. The 13 question survey was divided into three sections. The first section focused on wellness policy content. The questions in this section related directly to the minimum requirements set forth in the Child Nutrition and WIC Reauthorization Act. The second section of the survey focused on wellness policy support. The questions in this section asked about the use of the School Health Index (SHI) and the presence of a school health and wellness council. The first two sections of the survey contained closed-ended questions. The final section of the

survey contained two open-ended questions regarding best practices and barriers encountered throughout the implementation process. A copy of the survey can be found in Appendix B.

GAFHK was able to disseminate these surveys to district-level school nutrition directors statewide at their annual regional meetings. These mandatory meetings took place January 29- February 9, 2007. The seven survey sites along with the frequency of participation at each site are reflected below.

Table 3.1: Survey Sites and Frequency of Participation

Survey Site	Date	Frequency
Atlanta, GA	2/2/2007	10
Camilla, GA	1/29/2007	17
Dahlonega, GA	2/9/2007	32
Macon, GA	1/31/2007	25
Rome, GA	1/30/2007	16
Statesboro, GA	1/31/2007	25
Waycross, GA	1/30/2007	20
Total		**n=145**

The surveys were disseminated and collected by a GAFHK member at each of the survey sites. The survey was voluntary to participate in. Participants were assured all answers were confidential and results would be blinded. With support from a Kraft Foods State Team Grant, GAFHK made it possible for all participants to be entered into an incentive prize drawing to win $150.00 to go towards the further implementation of their wellness policy. There was one drawing at each survey site for a total of 7 incentive prize winners.

A total of 145 out of 180 public school districts participated in the voluntary survey for an overall response rate of 81 percent. All questions were numerically

coded and compiled into a *Statistical Package for the Social Sciences* (SPSS) data set. Each question was given two additional options for coding, "no answer," if no answer had been selected or "invalid," if the responder selected more than one answer. The GAFHK data presents how many districts have policies in place, the content of their policy, and who participated in the creation of the policy.

Using the GAFHK survey and additional demographic variables, this study proposes to examine any relationships that may exist between Georgia's school districts' wellness policies and their demographics. The dependant variables of the study include (1) compliance, (2) implementation status (referred to as "phase 5"), and (3) presence of a school health council (referred to as "SHC"). Each of the dependent variables was calculated as follows:

1. Compliance- A district was considered compliant with the law if the self-reported survey data indicated that the district's policy included all six required components. Required components include (1) nutrition education goals, (2) physical education goals, (3) goals for other school-based programs (4) nutrition education guidelines, (5) a plan for measuring implementation, and (6) assigned operational responsibility.
2. Implementation status- A district was considered to be in phase 5 implementation if they "have a Board approved policy and are working actively to implement it district wide." This was determined by self-reported survey data.
3. Presence of a school health council- Presence of a SHC was determined by self-reported survey data.

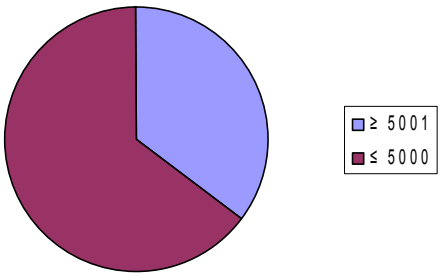
Specifically the following independent variables were examined: district size, percent of minority students, percentage of students who qualify for free and reduced lunch, and graduation rate. Location of the district's RESA was taken in to account for comparison of participating and non-participating districts; however, no subsequent analysis used RESA location. The following describes each demographic variable collected, including definitions, the data set from which it was obtained, and the way it was calculated:

District Size-

The size of each district was obtained from the Georgia Department of Education (GDOE) Office of Technology Services. The data was collected from the data collection titled "Enrollment by Race/Ethnicity, Gender, and Grade Level." The data was updated for currency on March 1, 2007 (GDOE 2007).

Prior to analysis, a new composite variable based on district size was created to function as one of the independent variables. The new variable separated participating districts into a new dichotomous variable based on whether or not they were greater than or equal to 5,001 students (n=51) or less than or equal to 5,000 students (n=94). The benchmark of 5,000 was determined by finding the median district size of Georgia school districts and rounding to the nearest hundred. Due to the wide range in district size throughout the state, the mean size of 9,253 students was not reflective of the number of small districts in the state (79% of Georgia's school districts are smaller than the mean). This new variable is reflected in Figure 3.1.

Figure 3.1
Independent Variable: School District Size



Percent of Minority Students-

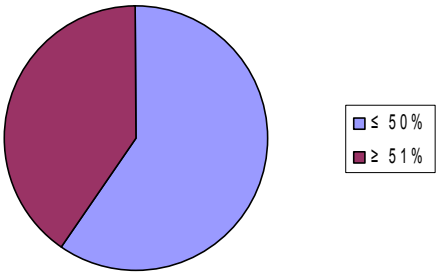
The percent of minority students for each district was obtained from the GDOE Office of Technology Services. The data collected was from the data collection titled "Enrollment by Race/Ethnicity, Gender, and Grade Level." The data was updated for currency on March 1, 2007 (GDOE 2007). The racial percentages were calculated by dividing the total number of students of (X) race/ethnicity by the total number of students in the district. The answer was multiplied by 100. Percentages were rounded to the nearest whole number. GDOE provides the following definitions for racial/ethnic categories:

- ***Asian, Pacific Islander***- "A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, and the Philippine Islands."
- ***Black, not of Hispanic origin***- "A person having origins in any of the black racial groups of Africa."
- ***Hispanic***- "A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race."

- ***American Indian/Alaskan Native***- "A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition."
- ***Multi-Racial***- "A person having parents of different races."
- ***White, not of Hispanic origin***- "A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (GDOE 2007)."

A new composite variable based on percent of minority students was created to function as one of the independent variables. The new variable separated participating districts based on whether or not their student body is made up of greater than or equal to a 51 percent minority population (n=59) or less than or equal to a 50 percent minority population (n=86). Fifty-one percent minority was chosen to be reflective of all districts that are categorized by having more minority students than the white majority. This is reflected in Figure 3.2.

Figure 3.2
Independent Variable: Percent of Minority Students



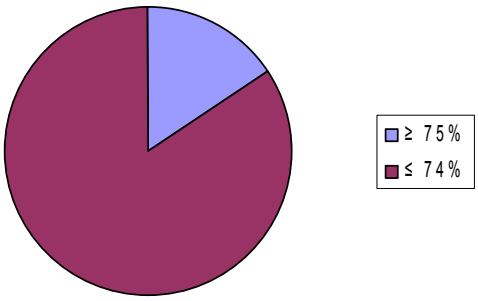
Percent of students eligible for Free and Reduced Lunch-

The percent of students eligible for free and reduced lunch in each district was obtained from the Georgia Department of Education (GDOE) Office of Technology Services. The data collected was from the data collection titled "Free & Reduced

Price Lunch Eligibility" The percentages for eligible students was calculated by dividing the number of students eligible for the free and reduced lunch program by the total number of students in the district. The answer was multiplied by 100. The data was updated for currency on October 31, 2006 (GDOE 2006).

A new independent variable was created based on percent of students qualifying for free and reduced lunch. The variable is defined by whether the district has greater than or equal to 75 percent of students qualifying for free and reduced lunch (n=23) or not (n=122). The benchmark of 75 percent was not determined by a mathematical or scientific method. It was reasoned that a district with 50 percent of students qualifying for free and reduced lunch would not necessarily be defined as a "low income" district. By dichotomously separating the variable at 75 percent, it can easily be justified that the majority of students within the district are coming from low-income households. This variable is reflective of districts that have a percentage of students qualifying for free and reduced lunch that is slightly above the state average of 65.4 percent. This variable is reflected in Figure 3.3.

Figure 3.3
Independent Variable: Percent Qualifying for Free and Reduced Lunch

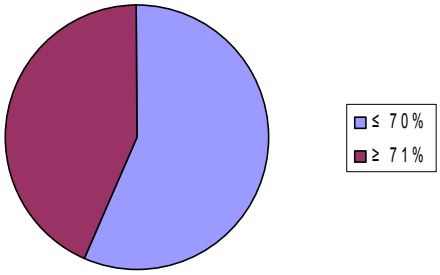


Graduation Rate-

To comply with the No Child Left Behind Act of 2001, Georgia has defined a graduate as "a student who leaves high school with a regular diploma (excluding Certificates of Attendance or Special Education Diplomas) in the standard time (4 years) (GAOSA 2006)." The actual graduation rate is a proxy calculation; "the lack of unique statewide student identifiers does not allow for tracking of individual students across the four high school years. The graduation rate reflects the percentage of students who entered ninth grade in a given year and were in the graduating class four years later (GAOSA 2006)." The graduation rate for each district was obtained from the 2005-2006 Georgia Report Card, available through the Governor's Office of Student Achievement, and is reflective of graduation rates for the corresponding school year.

A final independent variable for univariate analysis was created by dividing the participating districts in to those that have a graduation rate of greater than or equal to 71 percent (n=62) and those with a graduation rate of less than or equal to 70 percent (n=80). The benchmark of 70 percent was based on the calculated mean of 69.58 for graduation rates across the state. This new variable is reflected in Figure 3.4.

Figure 3.4
Independent Variable: Graduation Rate



RESA location-

A Regional Education Service Agency (RESA) is an agency established to provide shared services to improve the effectiveness of educational programs and services of local school systems and to provide direct instructional programs to selected public school students. There are 16 RESA's within the state of Georgia, including Northwest Georgia, North Georgia, Pioneer, Metro, Northeast Georgia, West Georgia, Griffin, Middle Georgia, Oconee, Central Savannah, Chattahoochee-Flint, Heart of Georgia, First District, Southwest Georgia, Coastal Plains, and Okefenokee (GDOE 2006).

A descriptive analysis was done to describe both the results of the GAFHK survey as well as the characteristics of Georgia's districts that did and did not participate in the survey. Results reflected in Chapter IV report this data in frequencies and percentages.

Statistical analyses were used in order to examine the relationship of participating versus non-participating districts, as well as the independent variables to the dependent variables, compliance, Phase 5 and SHC. Univariate crosstabs and logistic regression analysis enables this comparison. The distribution of categorical variables

(independent variables/ demographics) across the dependent variables was determined by using the chi square method. P-values are used to indicate if the chi square tabulations were statistically significant. Finally, the associations between independent and dependent variables were assessed using odds ratio at a 95% confidence interval.

Chapter IV- Results

The following chapter highlights the results from the Georgia Action for Healthy Kids (GAFHK) survey and the additional demographic analysis. The results are presented in subsections. The first subsection is based on the GAFHK survey responses. The second subsection outlines the independent variables. The third is reflective of univariate analysis comparing dependent to independent variables. The final subsection contains binary logistic regression analysis.

GAFHK Results

A total of 145 school nutrition directors completed the GAFHK survey. The school nutrition directors were asked to choose from five options which best described their current "implementation phase." The options were, "School district has formed a writing committee, but have not started the writing process" (n=1), "School district is currently in the writing process" (n=1), "School district has written the policy" (n=3), "School district has written the policy and it has been officially adopted by the Board of Education" (n=61), and "School district has Board approved policy and is working actively to implement it district wide" (n=76). There was one invalid response and two surveys with no response given. Figure 4.1 is a pictorial representation of implementation phase that each school nutrition director indicated that their district is in, excluding the district that has not begun to draft the policy.

Figure 4.1
GAFHK Survey: Implementation Phase

Note that the dependent variable referred to as "Phase 5" in this thesis is reflected in Figure 4.1 as those districts that have a "Board approved policy and are actively implementing" (n=76). "Non-Phase 5" districts are reflected in Figure 4.1 as districts that are currently in any other implementation phase (n=69).

Table 4.1 summarizes the answers given in the first section of the survey. This section consisted of six questions pertaining to the existence of minimum requirements set forth in the Child Nutrition and WIC Reauthorization Act within the district's written policy. School Nutrition Director's could choose "yes" or "no" to answer each of the questions in this section. The two additional options for coding were "no answer" if no answer had been selected or "invalid" if more than one answer had been selected. Note that the dependent variable referred to as "compliance" for this thesis is a composite variable made up of the school district's that have policies including all of the requirements reflected in Table 4.1 (n= 64).

Table 4.1: Descriptive Analysis of Policy Requirements Included in School District Wellness Policies

Policy Requirement	Frequency	Percent
Nutrition Education Goals		
Yes	140	96.6%
No	4	2.8%
No Answer	1	0.7%
Physical Education Goals		
Yes	137	94.5%
No	6	4.1%
No Answer	2	1.4%
Goals for Other School-Based Activities		
Yes	121	83.4%
No	21	14.5%
No Answer	1	0.7%
Invalid	2	1.4%
Nutrition Guidelines		
Yes	110	75.9%
No	34	23.4%
No Answer	1	0.7%
Plans for Implementation		
Yes	109	75.2%
No	29	20.0%
No Answer	6	4.1%
Invalid	1	0.7%
Assigned Operational Responsibility		
Yes	103	71.0%
No	33	22.8%
No Answer	9	6.2%

In addition to asking if the district wellness policy had a designee that was assigned operational responsibility; the survey asked the title of the person who was responsible. The most commonly cited answers were, school nutrition director (n=34), principal (n=20), and superintendent/ assistant superintendent (n=13). Other designees included school nurse, PE coordinator, school health council, and an individual designee at each school throughout the district.

Survey participants were asked to indicate the types and/or titles of people within the district that participated in the drafting of their wellness policy. Responders were given a list of 11 types/ titles of people and were also given an option to choose "other" and write in any additional participants. Table 4.2 lists the 11 options and the frequency in which they were chosen.

Table 4.2: GAFHK Survey: Participants in Drafting the Policy

Participant	Frequency	%
School Nutrition Representative	127	87.6%
Parent	108	74.5%
Teacher	106	73.1%
Principal/ Asst. Principal	105	72.4%
School Nurse Representative	103	71.0%
Physical Education Representative	96	66.2%
Community Representative	91	62.8%
Superintendent/ Asst. Superintendent	89	61.4%
Member of School Board	74	51.0%
Student	71	49.0%
Physician/ Pediatrician	31	21.4%

Additional answers that were written in the "other" category included Health Department representative, Board of Education attorney, Parks and Recreation director and County Extension Services representative.

Table 4.3 indicates the answers given when asked if the district had a school health or wellness council. Note that the final dependent variable for this thesis is the presence of a school health council (n=43).

Table 4.3: GAFHK Survey: Presence of School Health Council

Presence of School Health/ Wellness Council	Frequency	Percent
Yes	43	29.7%
No	94	64.8%
No Answer	8	5.5%

Survey participants that indicated their district had a school health council were asked how often the council meets. The most common responses given were "on an as needed basis" (n=37), "every other month" (n=3), and "monthly" (n=3).

The GAFHK survey gained some insight into the barriers and best practices of the districts in terms of their district-wide wellness policies. Some of the barriers with implementation had to do with foods available at school, including:

- 6 respondents (4%) mentioned competitive foods
- 16 (10.7%) referred to vending machines
- 5 (3.3%) said that unhealthy foods were being used at parties and as rewards
- 11 respondents (7.3%) indicated that vending, competitive foods, and concessions were important for fundraising and that principals did not want to give up that revenue

In addition, 14 (9.3%) wrote that money was a major barrier, which included money to implement strategies. Support from district leadership, principals, staff, and faculty was another barrier:

- 19 (12.7%) indicated that they did not have principal support
- 5 (3.3%) did not feel they had the buy in from faculty and staff
- Several others indicated that the policy was "on paper" but not enforced beyond that and/or there was a great deal of uncertainty around the policy

Finally, 14 (9.3%) respondents indicated that time was a major barrier.

The GAFHK survey asked districts to identify "best practices" for their policy. Although the term "best" alludes to tested or proven strategies, these have not been proven. These following practices are self-reported promising or model practices identified by individual districts. Several respondents (5) indicated that their "best practices" related to their wellness councils. Examples include:

- Having council at each school
- Involving students on the council
- Having diverse councils

Eight respondents gave specific food-related best practices. Examples include:

- Having strict menu policy (fruits, vegetables, and whole grains)
- Removing all unhealthy snacks and vending options
- Providing a pre-approved list of items that can be sold at fundraisers
- Having fruit and vegetable bars in schools

Two respondents indicated the importance of buy in from faculty, staff, and leadership:

- Providing in-services for staff
- Having leadership buy-in

Other "best practices" included:

- Providing students with pedometers to measure activity
- Parental participation
- Community partners

Independent Variables

Table 4.4 presents a descriptive comparison of participating and non-participating districts based on their size.

Table 4.4: Descriptive Comparison of Participating v. Non-Participating Districts: Size

Categorical Variable	N	Mean	T Statistic	Degrees of Freedom	P-Value
Participant	145	8763.59			
Non-Participant	35	11280.43	-0.532	39.851	0.598

An independent T-test was completed because visually it appeared as if larger districts were more likely than smaller districts to have participated in the GAFHK survey. The T-test analysis shows that there is no association between the mean size of participating versus non-participating districts.

Prior to analysis, a new composite variable based on district size was created to function as one of the independent variables. The new variable separated participating districts into a new dichotomous variable based on whether or not they were greater than or equal to 5,001 students (n=51) or less than or equal to 5,000 students (n=94). Univariate analysis was used to determine if size was associated with participation status. Table 4.5 displays these findings. Based on Table 4.5, size was not determined to be statistically associated with participation status.

Table 4.5: Univariate Analysis of Participating v. Non-Participating Districts: Size

Categorical Variable	Participant (n=145)	Non-Participant (n=35)	P-Value	OR (95% CI)
District Size				
≤5000 students	94 (64.8%)	23 (65.7%)		
≥5001 students	51 (35.2%)	12 (34.3%)	0.921	0.96 (0.44, 2.09)

Table 4.6 presents a descriptive comparison of participating and non-participating districts based on percent of minority students.

Table 4.6: Descriptive Comparison of Participating v. Non-Participating Districts: Percent of Minority Students

Categorical Variable	N	Mean	Categorical Variable	N	Mean
Participating Districts			***Non-Participating Districts***		
% American Indian	145	0.01	% American Indian	35	0.03
% Asian	145	0.95	% Asian	35	1.09
% Black	145	35.15	% Black	35	40.09
% Hispanic	145	6.53	% Hispanic	35	5.77
% Multiracial	145	2.01	% Multi-Racial	35	2.2
% White	145	55.35	% White	35	50.86

A new composite variable based on percent of minority students was created to function as one of the independent variables. The new variable separated participating districts based on whether or not their student body is made up of greater than or equal to a 51 percent minority population (n=59) or less than or equal to a 50 percent minority population (n=86). Univariate analysis was used to determine if a higher percentage of minority students was associated with participation status. Table 4.7 reflects this analysis.

Table 4.7: Univariate Analysis of Participating v. Non-Participating Districts: Percent of Minority Students

Categorical Variable	Participant (n=145)	Non-Participant (n=35)	P-Value	OR (95% CI)
% Minority Students				
≤50% minority	86 (59.3%)	24 (68.6%)		
≥51% minority	59 (40.7%)	11 (31.4%)	0.313	1.50 (0.68, 3.29)

Percent of minority students, as defined in this study is not statistically associated with participation.

Table 4.8 presents a descriptive comparison of participating and non-participating districts based on the average percent of students within the district that qualify for free and reduced lunch.

Table 4.8: Descriptive Comparison of Participating v. Non-Participating Districts: Percent of Students Qualifying for Free and Reduced Lunch

Cohort	N	Mean
Participating Districts	145	58.34
Non-Participating Districts	35	58.93

A new independent variable was created based on percent of students qualifying for free and reduced lunch. The variable is defined by whether the district has greater than or equal to 75 percent of students qualifying for free and reduced lunch (n=23) or not (n=122). Table 4.9 reflects that the percent qualifying for free and reduced lunch is not statistically associated with participation status.

Table 4.9: Univariate Analysis of Participating v. Non-Participating Districts: Percent of Students Qualifying for Free and Reduced Lunch

Categorical Variable	Participant (n=145)	Non-Participant (n=35)	P-Value	OR (95% CI)
% Qualified for F&R Lunch				
≤74% qualify	122 (84.1%)	32 (91.4%)		
≥75% qualify	23 (15.9%)	3 (8.6%)	0.271	2.01 (0.57, 7.12)

Table 4.10 represents a descriptive comparison of graduation rates in both participating and non-participating districts.

Table 4.10: Descriptive Comparison of Participating v. Non-Participating Districts: Graduation Rate

Cohort	N	Mean
Participating Districts	143	69.02
Non-Participating Districts	33	69.83

A final independent variable was created by dividing the participating districts in to those that have a graduation rate of greater than or equal to 71 percent (n=62) and those with a graduation rate of less than or equal to 70 percent (n=80). Table 4.11 reflects univariate analysis of participating versus non-participating districts in terms of graduation rate. Graduation rate was not determined to be statistically associated with participation status.

Table 4.11: Univariate Analysis of Participating v. Non-Participating Districts: Graduation Rate

Categorical Variable	Participant (n=142)	Non-Participant (n=32)	P-Value	OR (95% CI)
Graduation Rate				
≤70% graduate	80 (56.3%)	17 (53.1%)		
≥71% graduate	62 (43.7%)	15 (46.9%)	0.438	0.74 (0.35, 1.58)

Tables 4.5, 4.7, 4.9, and 4.11 indicate that significant findings could not be calculated to determine variables associated with participation or non-participation in the GAFHK survey. This indicates that similar districts both participated and did not participate in the GAFHK survey, eliminating the possibility of survey bias based on these independent variables.

Although it will not be used for present analysis, RESA location of participating districts may have implications for future technical assistance and research. Figures 4.2 and 4.3 reflect the rates of participation and non-participation by RESA as well as the frequency of participation within each RESA.

Figure 4.2
Comparison of Participating v. Non-Participating Districts: RESAs

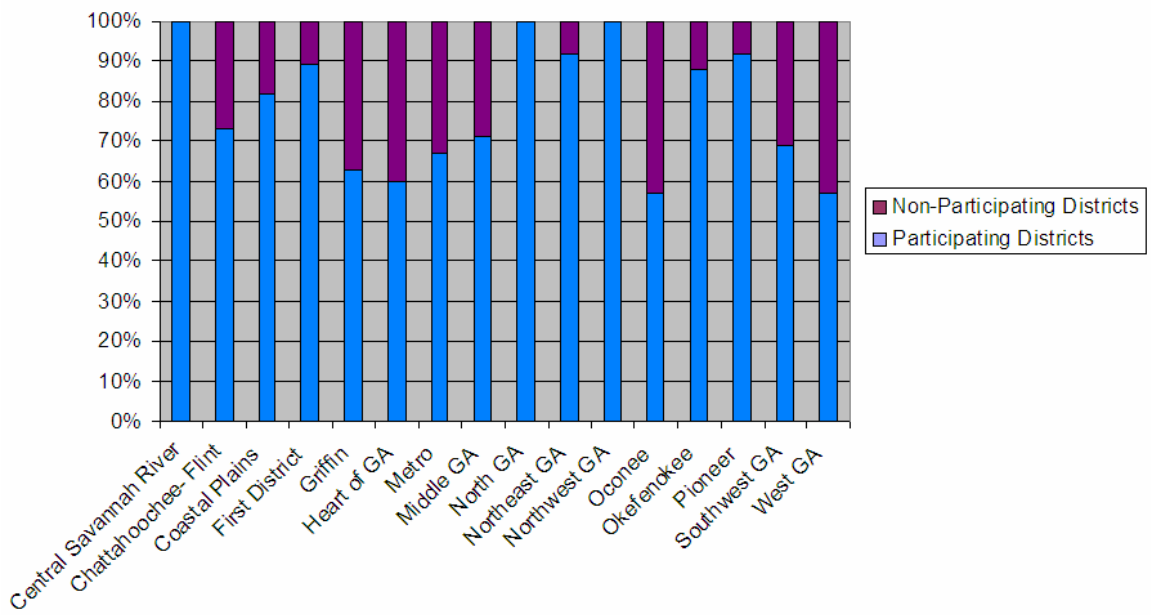
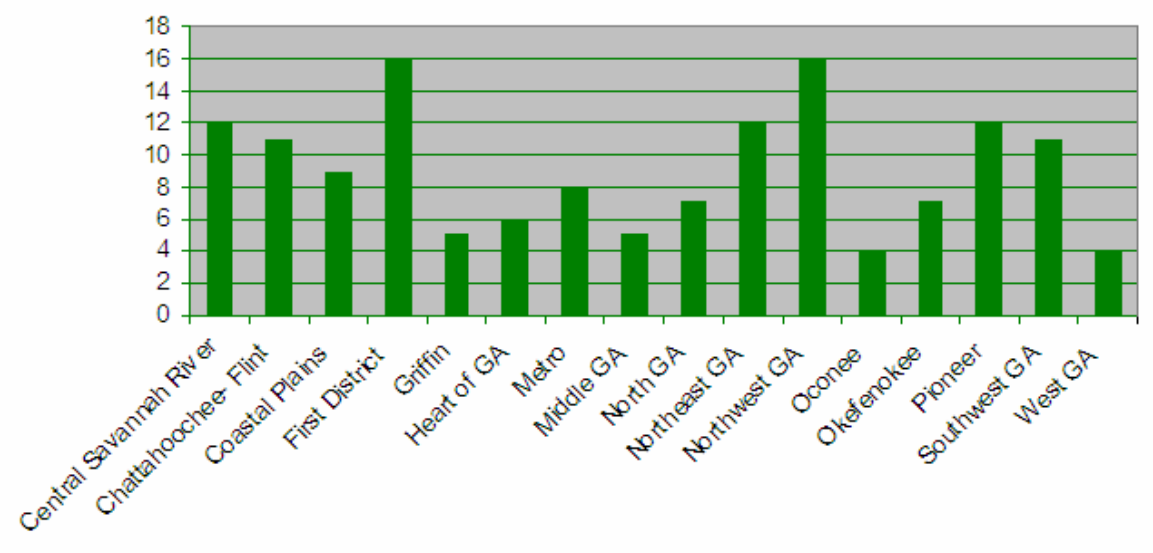


Figure 4.3
Frequency of Survey Participation by RESA



Dependent versus Independent Variables: Univariate Analysis

Univariate analysis was used to determine if any of the independent variables were associated with implementation status (Phase 5 or Non-Phase 5). The purpose of this analysis is to be able to better depict the characteristics of school districts that are more likely to be in implementation phase 5 (n=76) and those that are non-phase 5 (n=69).

Table 4.12: Univariate Analysis of Phase 5 versus Non-Phase 5 Participating in GAFHK Survey

Categorical Variable	Phase 5 (n=76)	Non-Phase 5 (n=69)	P-Value	OR (95% CI)
District Size				
≤5000 students	47 (61.8%)	47 (68.1%)		
≥5001 students	29 (38.2%)	22 (31.9%)	0.429	1.32 (0.66, 2.62)
% Minority Students				
≤50% minority	43 (56.6%)	43 (62.3%)		
≥51% minority	33 (43.4%)	26 (37.7%)	0.482	0.79 (0.41, 1.5)
% Qualified for F&R Lunch				
≤74% qualify	67 (88.2%)	55 (79.7%)		
≥75% qualify	9 (11.8%)	14 (20.3%)	0.164	1.90 (0.76, 4.71)
Graduation Rate*				
≤70% graduate	40 (53.3%)	40 (59.7%)		
≥71% graduate	35 (46.6%)	27 (40.3%)	0.445	1.30 (0.67, 2.52)

*There are three cases missing for graduation rate due to districts not having high schools. ≤70% graduate n=80, ≥71% graduate n=62

None of the categorical variables analyzed were determined to have a statistically significant association with being categorized as phase 5 or non-phase 5 implementation status.

Table 4.13: Univariate Analysis of Compliant versus Non-Compliant Participating in GAFHK Survey

Categorical Variable	Compliant (n=64)	Non-Compliant (n=81)	P-Value	OR (95% CI)
District Size				
≤5000 students	39 (60.9%)	55 (67.9%)		
≥5001 students	25 (39.1%)	26 (32.1%)	0.383	0.74 (0.37, 1.46)
% Minority Students				
≤50% minority	30 (46.9%)	56 (69.1%)		
≥51% minority	34 (53.1%)	25 (30.9%)	*0.007	2.54 (1.29, 5.01)
% Qualified for F&R Lunch				
≤74% qualify	51 (79.7%)	71 (87.7%)		
≥75% qualify	13 (20.3%)	10 (12.3%)	0.192	1.81 (0.74, 4.45)
Graduation Rate**				
≤70% graduate	34 (53.9%)	46 (58.2%)		
≥71% graduate	29 (46.1%)	33 (41.8%)	0.611	0.84 (0.43, 1.64)

* Statistically significant
**There are three cases missing for graduation rate due to districts not having high schools. ≤70% graduate n=80, ≥71% graduate n=62

Table 4.13 reflects the univariate analysis to determine whether the specific categorical variables could be considered statistically associated with compliance to the requirements outlined in the Child Nutrition and WIC Reauthorization Act. As indicated above, race is statistically associated compliance. The odds ratio shows that districts that have a higher proportion of minority students are at increased odds to be compliant to the policy- that is, their odds of being compliant were 2.5 times greater than in districts with a lower proportion of minority students.

Table 4.14: Univariate Analysis of School Health/ Wellness Council versus No School Health/ Wellness Council Participating in GAFHK Survey

Categorical Variable	SHC (n=43)	No SHC (n=94)	P-Value	OR (95% CI)
District Size				
≤5000 students	24 (55.8%)	64 (68.1%)		
≥5001 students	19 (44.2%)	30 (31.9%)	0.164	0.59 (0.28, 1.24)
% Minority Students				
≤50% minority	23 (53.5%)	59 (62.8%)		
≥51% minority	20 (46.5%)	35 (37.2%)	0.304	1.47 (0.71, 3.04)
% Qualified for F&R Lunch				
≤74% qualify	38 (88.4%)	80 (85.1%)		
≥75% qualify	5 (11.6%)	14 (14.9%)	0.608	0.75 (0.25, 2.24)
Graduation Rate*				
≤70% graduate	28 (65.1%)	47 (51.1%)		
≥71% graduate	15 (34.9%)	45 (48.9%)	0.126	1.79 (0.85, 3.78)

* ≤70% graduate n=75, ≥71% graduate n=60

Table 4.14 depicts that the independent variables were not determined to be statistically associated with having a school health/ wellness council based on univariate analysis of chi squares and odds ratios.

The univariate cross-tabulations of compliant to non-compliant, phase 5 to non-phase 5, and presence or lack of a school health/ wellness council were only able to calculate one significant finding. Although chi square and odds ratio were unable to identify that more than one relationship exists, the finding that no relationship exists is still of value.

Binary Logistic Regression

The final step in the statistical analysis involved binary logistic regression of the variables. This analysis is depicted in the following tables.

Table 4.15: Binary Logistic Regression of Implementation Phase (Phase 5 v. Non Phase 5)

Variable	P-Value	OR (95% CI)
District Size	0.826	0.91 (0.44, 1.91)
% Minority Students	0.098	1.98 (0.88, 4.44)
% Qualifying for F&R Lunch	0.097	0.37 (0.12, 1.45)
Graduation Rate	0.368	0.73 (0.37, 1.45)

Logistic regression adjusts for confounding variables. None of the variables presented in Table 4.15 are statistically significant, even when controlling for confounding.

Table 4.16: Binary Logistic Regression of Compliance (Compliant v. Not Compliant)

Variable	P-Value	OR (95% CI)
District Size	0.312	1.47 (0.70, 3.01)
% Minority Students	0.017	0.38 (0.17, 0.84)
% Qualifying for F&R Lunch	0.571	0.72 (0.23, 2.26)
Graduation Rate	0.265	1.50 (0.74, 3.05)

When controlling for confounding, only the percentage of minority students was statistically associated with racial compliance (OR= 0.38) in Table 4.16.

Table 4.17: Binary Logistic Regression of SHC (Presence of SHC v. Lack of SHC)

Variable	P-Value	OR (95% CI)
District Size	0.283	1.53 (0.70, 3.37)
% Minority Students	0.308	0.65 (0.28, 1.49)
% Qualifying for F&R Lunch	0.654	1.33 (0.37, 4.78)
Graduation Rate	0.182	0.59 (0.28, 1.28)

None of the variables were statistically associated with SHC after controlling for confounding with logistic regression.

Chapter V- Discussion

The relevance of this study relates directly to the tenth essential public health service, which is researching for new insights and innovative solutions to health problems. The implementation of school wellness policies represents a new and creative way to approaching the epidemic of childhood overweight. Although it is too early to study the overall effectiveness of the Child Nutrition and WIC Reauthorization Act within Georgia, the results from this study can be used to prioritize intervention strategies statewide to assist districts with the adoption and implementation of their policies.

The aim of this thesis was to examine any relationships that may exist between Georgia's school districts' wellness policies and their demographics. The objectives were threefold and included;

1. Identifying the characteristics associated with having a school based local wellness policy which meets the minimum requirements set forth by the Child Nutrition and WIC Reauthorization Act.
2. Identifying the characteristics associated with having a policy that is actively being implemented district wide, and;
3. Identifying the characteristics associated with having a school health council.

It was hypothesized that smaller districts (≤5000), districts with a high rate of students qualifying for free and reduced lunch (≥75%), districts with a low graduation rate (≤70%), and districts with a high proportion of minority students (≥51%) would have policies that did not meet minimum requirements set forth in the Child Nutrition and WIC Reauthorization Act (compliance), would not be actively implementing their policy

(phase 5), and would not have a school health council (SHC). While the assumptions made within the hypothesis were not proven, all of the study objectives were met.

The GAFHK survey helped to address four core issues: (1) the number of districts that currently have a policy, (2) the general content of their policy, (3) who participated in the drafting of their policy, and (4) the barriers that were encountered during adoption and implementation.

The GAFHK survey findings show that the new act encouraged progress towards all Georgia school districts implementing a local wellness policy. It is positive to know that 97 percent of participating districts have a written policy and 94 percent of participating districts have a written policy that has been adopted by their respective Boards of Education. Although the specific content of the policies was not analyzed, 64 (44 percent) of the participants indicated that their district's policy included all six of the required components set forth in the Act.

While this information is positive, it is important to keep in mind that developing and adopting a policy is only the beginning. The adoption of a policy does not automatically mean that it will be implemented well or even at all. Implementation requires a mixture of good planning, management skills, thorough oversight, necessary resources, and the buy-in of both the district staff and community. It is necessary for engaged stakeholders to provide leadership, commitment and support throughout the adoption and implementation process. It is at this point that dosage and adherence are important variables to incorporate into the dissemination and enactment of the policy.

It is also important to question why 56 percent (n=81) of districts do not have policies that incorporate all six of the required components. Such a large number has

implications of the need for future follow-up and technical assistance. These districts serve as an example of the importance of having a governing agency holding districts accountable for having policies that incorporate all required components.

An interesting finding from the GAFHK survey is that a broad range of people participated in the writing of individual district policies, with the most common being a school nutrition director (n=127). School nutrition directors were also cited most commonly as having assigned operational responsibility over the policy (n=34). A possible hypothesis to the widespread involvement of school nutrition directors with local wellness policies would be that there are no state level policies that mandate Physical Education or School Health Program Coordinators within each district. However, State Board of Education local level rule 160-5-1-.22 (2000) requires each school system to employ at least one full-time school nutrition program director (NASBE 2006). These findings provide the insight that school nutrition directors would be a logical target to identify for any policy based monitoring or technical assistance provided in the future by GDOE, RESAs, or outside agencies.

Finally, the barriers identified by the GAFHK survey were very similar to those cited by the School Nutrition Association (SNA 2006) and Illinois Wellness Policy Task Force (Illinois 2006). Vending machines, sales of competitive foods, and concession stands were mentioned in the context of being revenue generators. Participants acknowledged that principals were very hesitant to give up the extra revenue and therefore, vending and fundraising policies were either not written in to the district-wide wellness policy or existing policies were not being adhered to.

Other barriers identified by the GAFHK survey included time and support. As mentioned in Chapter II, lack of time and support can lead to lower levels of compatibility and higher levels of complexity. To counteract this effect, measures need to be taken to increase the relative advantage of policies. District staff and administration need to be educated on the connection between health and academic performance. It may be effective to call on districts that are early adopters who can activate peer networks which can then work to diffuse the importance of this preventive innovation. As stated before, most individuals do not evaluate an innovation based on scientific merit, but through subjective evaluations of peers who have already adopted the particular innovation (Rogers 2002).

The GAFHK survey provided the information necessary for the formation of the dependent variables used within subsequent analysis. The univariate cross-tabulations of compliant to non-compliant, phase 5 to non-phase 5, and presence or lack of a school health council found that race is statistically associated with compliance to the Act. More specifically, racial composition of a greater than 51 percent minority student population within districts is statistically associated with being compliant.

It is important to understand how this finding can help to prioritize future intervention strategies. Districts that have a smaller population of minority students may benefit from the distribution of model policies that have been adopted in other Georgia districts. By modeling their policy after a “gold standard,” it would be more likely to incorporate all required aspects of the Act, and therefore be considered compliant. This would also provide positive reinforcement to districts that have compliant policies by highlighting them as a “model.”

Non-compliant districts may also benefit from additional clarification of required components of the Act. The vagueness within policy requirements may make it hard for districts to create specific, measurable goals, contributing to non-compliance. It may be beneficial for the State Department of Education to create a "Frequently Asked Questions" guidance document to provide uniform clarification to questions surrounding the requirements of the Act.

Although the chi square and odds ratio analysis was unable to identify any other statistically significant relationships between the independent and dependent variables, the finding that no relationships exist is still of value. Based on these findings, it is important that all districts receive guidance, technical assistance, and feedback for their policies. A focused priority of this type of assistance should be the 56 percent of districts that were determined to be non-compliant.

While the hypothesis made the concession that certain types of districts may have characteristics that predisposed them to have policies that (1) did not meet minimum requirements set forth in the Act, (2) would not be actively implementing their policy, and (3) would not have a school health council, the assumptions made were untrue. This has implications for both future recommended actions for the state to take as well as future research. Before identifying topics for future research, it is important to understand the limitations of the current research.

One limitation of the GAFHK survey is that it was hard to measure the extent of implementation. The GAFHK survey asked if the district was "actively implementing" the policy throughout the district, but the definition of "actively implementing" is left to the participant's discretion. There is most likely a very broad range of implementation

strategies throughout the 52 percent of districts that answered yes to this question. It would be easier to determine the rate of diffusion and adopter categories across districts if the districts had been able to better clarify the steps they were actively taking to spread awareness of and enforce the policy.

Other limitations of the GAFHK survey should be noted. Most importantly to note, the content of district level policies was not analyzed; only their presence and the presence of the few key components reported. Second, although the participants of the survey were told that all answers would be kept confidential, there is always the possibility in survey research that the interviewee answered the questions untruthfully due to the motivation to please the interviewer. Problems with recall may have also led participants to mark incorrect answers, ultimately skewing the data slightly. In addition, districts may still be in a transitional time in regards to their policies, therefore these findings may be an inaccurate representation of the final policies that were adopted by the districts respective Boards of Education. All of these limitations may pose potential threats to the validity of the survey analysis.

There were also several limitations to the subsequent demographic analysis. The first is that the assumptions made when defining the independent variables may have affected the outcome. If the benchmarks that were set within the independent variables had been different, there is a chance that the univariate analysis may have calculated different significance levels. For example, if the independent variable of district size had been dichotomously separated at the mean instead of median, the chi square and odds ratio would have been different. Second, the independent variables chosen for this study were not extensive. There are numerous other variables that could have been chosen to

analyze. Some examples of alternative independent variables are standardized test scores or average household income within the district. Finally, the analytical methods used required the independent variables to be split dichotomously. The results of the study may have been different had the independent variables been analyzed as continuous numbers rather than grouped. Had this been the case, analysis would have called for the use of multiple regression rather than binary logistic regression. Regardless of the study's limitations, analysis was able to calculate significant findings. The outcomes of this study have generated several recommendations for future research.

A recommendation for research in the near future would be to create a study based on the DOI theory. One recommendation for this type of study should explicitly measure the different elements associated with DOI and see if they predict compliance, phase of implementation, presence of a school health council, or any other relevant dependent variable. To do this, one could identify independent variables as levels of perceived relative advantage, compatibility, complexity, trialability, and observability. A Likert Scale may be an effective way to measure these variables. This would be a particularly interesting study to have district administration to participate in as a way to measure the wellness policy buy-in of upper level administration.

Dosage, adherence, quality of process, and adaptation would be interesting DOI components to study on a qualitative basis. Dosage could be determined by how the policy is being marketed district-wide. Adherence could be measured by finding out what barriers are prohibiting the policy to be implemented as written. Quality of process could be measured by asking how engaged various partners are in the implementation process.

Adaptation could be measured by learning how the districts tailored their policy to their own unique needs.

A final recommended study associated with the DOI theory would be testing the applicability of adopter categories to Georgia's school districts. This would require researching the rate of adoption across districts and determining if the speed correlates to the defining characteristics within the DOI adoption categories. For example, a defining characteristic of innovators is that they are often from a higher SES, a defining characteristic of laggards is that they are from a lower SES (Rogers 2002). Would this be the case for the first and final adopters of local wellness policies within Georgia's school districts?

Another type of recommended study would be to use data from the Georgia Student Health Survey. This survey provides baseline data on the health behaviors of Georgia's students prior to the implementation of wellness policies. It would be interesting to see longitudinal research based on how the prevalence of certain self-reported behaviors in the Georgia Student Health Survey Report change over time post-implementation. For example, as a result of the wellness policies, will the rates of obesity decrease? Will the amount of vigorous physical activity and consumption of fruits and vegetables increase?

Finally, an assessment on the specific content of each district's wellness policy could have some implications for the future. By determining the areas of deficit versus the areas that districts excel at (for example, the policy may include exceptional nutrition guidelines, but lack comprehensive goals for physical education), GDOE, RESAs, or an outside agency such as GAFHK, could provide targeted technical assistance.

The results of this analysis evoked some general recommendations for the future. Research shows that campus-level administrative support and subsequent program implementation and sustainability are strengthened when there are state and/or district guidelines which exist for a program (Greenberg et al. 2003). One year post implementation deadline, management and oversight of the wellness policies should now become the responsibility of the Georgia Department of Education. The wellness policies will not reach their full potential of impact unless there is a governing agency holding the individual districts accountable to taking action.

GDOE is beginning to take the necessary steps to assess Georgia's school district wellness policies. GDOE's School Nutrition Division has contracted with the Institute of Public Health (IPH) at Georgia State University to collect and analyze the policies of all 180 of Georgia's public school districts and approximately 32 private and charter schools. Similarly to this thesis, IPH will document education agencies' demographic characteristics and assess each district's policy for compliance with the federal statute. In addition, IPH will evaluate the quality of policy goals and identify model policies and programs that have the potential to be replicated statewide (GSU 2007).

Conclusion

This study examined the relationships between Georgia's school districts' wellness policies and their demographics. Analysis showed that none of the identified demographics were statistically associated with implementation phase of the policy. In addition, analysis was unable to identify significant associations between demographics and having a school health council within the district. Binary logistic regression and

univariate analysis were able to show that districts with a population of greater than 51 percent of minority students are statistically associated with being compliant. More specifically, these districts are 2.5 times more likely to have compliant policies.

The Diffusion of Innovation theory provided insight on how specific characteristics of an innovation guide the rate of adoption throughout a social system. Many of the facets of the DOI theory were illustrated within the scope of this research. Roger's identified that innovations that are perceived to have greater levels of relative advantage, compatibility, trialability, and observability, as well as low levels of complexity will be adopted on a more rapid basis (Rogers 1995). Many of the barriers identified by school districts showed a lack of recognition of the relative advantage of policies (illustrated by a self-reported lack of support and buy-in) and an increased level of complexity (time or money were reported as the most common barriers).

Another facet of DOI exhibited was the importance of two key adopter categories: the early adopters and the late majority. Although it was beyond the scope of this study to identify which Georgia school districts belonged to each of the adopter categories, the research did illustrate the importance of these two particular groups when developing intervention strategies. The late majority tend to be more skeptical of innovation when compared to other adopter groups. It is important that the districts that make up the early majority use their leadership and influence to provide the late majority with subjective feedback on the importance of adopting and implementing a compliant policy.

One year post implementation deadline, management and oversight of the wellness policies should now become the responsibility of the Georgia Department of Education. In addition to GDOE holding districts accountable to the Act, they should

develop a statewide education and awareness campaign promoting the existence of the policies. The focus of local wellness policies will soon need to shift to the sustainability of the existing policies. An education and awareness campaign can help to maintain sustainability by encouraging parents and community members to become involved in the implementation of the process. A campaign of this nature would also reinforce the healthy behaviors being promoted throughout the state as a result of the policies.

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APPENDIX A

Section 204 of Public Law 108-265—June 30, 2004

Child Nutrition and WIC Reauthorization Act of 2004

SEC. 204 LOCAL WELLNESS POLICY

(a) IN GENERAL –
Not later than the first day of the school year beginning after June 30, 2006, each local education agency participating in a program authorized by the Richard B. Russell National School Lunch Act (42 U.S.C.1751 et seq.) or the Child Nutrition Act of 1966 (42 U.S.C. 1771 et seq.) shall establish a local school wellness policy for schools under the local educational agency that, at a minimum—

1) Includes goals for nutrition education, physical activity and other school- based activities that are designed to promote student wellness in a manner that the local educational agency determines is appropriate;

2) Includes nutrition guidelines selected by the local educational agency for all foods available on each school campus under the local educational agency during the school day with the objectives of promoting student health and reducing childhood obesity;

3) Provides an assurance that guidelines for reimbursable school meals shall not be less restrictive than regulations and guidance issued by the Secretary of Agriculture pursuant to subsections (a) and (b) of section 10 of the Child Nutrition Act (42 U.S.C. 1779) and section 9(f)(1) and 17(a) of the Richard B Russell National School Lunch Act (42 U.S.C. 1758(f)(1), 1766(a)0, as those regulations and guidance apply to schools;

4) Establishes a plan for measuring implementation of the local wellness policy, including designation of 1 or more persons within the local educational agency or at each school, as appropriate, charged with operational responsibility for ensuring that the school meets the local wellness policy; and

5) Involves parents, students, and representatives of the school food authority, the school board, school administrators, and the public in the development of the school wellness policy.

(b) TECHNICAL ASSISTANCE AND BEST PRACTICES.

(1) IN GENERAL. –
The Secretary, in coordination with the Secretary of Education and in consultation with the Secretary of Health and Human Services, acting through the Centers for Disease Control and Prevention, shall make available to local educational agencies, school food

authorities, and State educational agencies, on request, information and technical assistance for use in—
(A) Establishing healthy school nutrition environments;
(B) Reducing childhood obesity; and
(C) Preventing diet-related chronic diseases.

(2) CONTENT. –
Technical assistance provided by the Secretary under this subsection shall—
(A) Include relevant and applicable examples of schools and local educational agencies that have taken steps to offer healthy options for foods sold or served in schools;
(B) Include such other technical assistance as is required to carry out the goals of promoting sound nutrition and establishing healthy school nutrition environments that are consistent with this section;
(C) Be provided in such a manner as to be consistent with the specific needs and requirements of local educational agencies; and
(D) Be for guidance purposes only and not be construed as binding or as a mandate to schools, local educational agencies, school food authorities, or State educational agencies.

(3) FUNDING. –
(A) IN GENERAL. – On July 1, 2006, out of any funds in the Treasury not otherwise appropriated, the Secretary of the Treasury shall transfer to the Secretary of Agriculture to carry out this subsection $4,000,000, to remain available until September 30, 2009.
(B) RECEIPT AND ACCEPTANCE. – The Secretary shall be entitled to receive, shall accept, and shall use to carry out this subsection the funds transferred under subparagraph (A), without further appropriation.

APPENDIX B

School District _____

1. **What is the size of your school district (# of students)?**
   A. Less than 2,500 students
   B. 2,500- 20,000 students
   C. More than 20,000 students

2. **What phase of the wellness policy implementation process is your school district currently in?**
   A. School district has formed a committee to write the policy, but have not currently started the writing process
   B. School district is currently in the writing process
   C. School district has written the policy
   D. School district has written the policy and it has been officially adopted by the local school board
   E. School district has a school board approved policy and is actively working to implement it district wide
   F. Other (please specify) _____
   _____

If you answered A or B, please submit questionnaire now.

Wellness Policy Content

3. **Does your district's wellness policy include goals for nutrition education?**
   A. Yes
   B. No

4. **Does your district's wellness policy include goals for physical activity?**
   A. Yes
   B. No

5. **Does your district's wellness policy include goals for other school-based activities that are designed to promote student wellness (i.e. in-class parties, fundraisers, teacher/staff wellness, after school program, etc.)?**
   A. Yes
   B. No

6. **Does your district's wellness policy include nutrition guidelines for all foods available on the school campus throughout the school day (i.e. vending machines, concessions, school store, etc.)?**
   A. Yes
   B. No

7. **Does your district's wellness policy establish a plan for measuring implementation of the local wellness policy?**
   A. Yes
   B. No

8. **Does your district's wellness policy include the designation of one or more persons within the district charged with the operational responsibility for overseeing implementation of the policy?**
   A. Yes
   B. No
   Please specify the title(s) of the person(s) charged with overseeing the wellness policy. _____

9. **Who participated in the writing of your district wellness policy (<u>Please choose all that apply</u>)?**

   A. Parent
   B. Student
   C. Teacher
   D. Member of local school board
   E. Principal/ Assistant principal
   F. Superintendent/ Assistant Superintendent
   G. Community representative
   H. School nurse representative
   I. School nutrition representative
   J. Physical education representative
   K. Physician/ Pediatrician
   L. Other (please specify) _____

Wellness Policy Implementation Support

10. Does your school district have a School Health/Wellness Council?

A. Yes
B. No

How often does your School Health/ Wellness Council meet?

A. On an as-needed basis
B. Monthly
C. Bi-Monthly (every other month)
D. Once a semester
E. Other (please specify) _____

11. Does your school district encourage schools to use the School Health Index to assess and plan their health and safety policies and programs?

A. Yes
B. No
C. Only in elementary schools
D. Only in middle/ high schools

What percentage of schools in your district have completed the School Health Index?

A. 75-100%
B. 50-74%
C. 25-49%
D. < 24%
E. Don't know

Please use the space provided to describe any barriers that your district has encountered throughout the process of writing and implementing your local wellness policy.

Please use the space provided to describe any aspects of your district wellness policy that you might consider a "best practice" or that may be useful to other school districts.