A SURVEY OF SCHOOL ADMINISTRATOR'S ACCEPTANCE OF SCHOOL WELLNESS INITIATIVES

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by Kristi Hainstock

School wellness promotion initiatives are supported and directed at the state, federal, and global levels (e.g., World Health Organization [WHO], Centers for Disease Control and Prevention [CDC], United States Department of Agriculture [USDA]) and recent legislation (Public Law 108-265) has mandated that school districts and Local Education Agencies (LEA) develop wellness policies. Yet these policies continue to vary extensively from state-to-state and school district-to-school district (e.g., Metos & Nanney, 2007; SNA, 2006a; SNA, 2006b; SNA, 2008; SNA and School Nutrition Foundation, 2007; Tang et al., 2008). Via an internet survey, the current study examined not only the implementation of these policies and practices nationwide, but also school administrators' knowledge and perceived social validity of both general wellness information and school wellness promotion initiatives. Demographic information was also solicited to examine potential relationships between knowledge, social validity, and/or implementation and geographic region, building level, rates of free and reduced lunch, and access to funding, as well as involved school personnel. Participants included a random national sample of 103 school superintendents, principals, and other school administrators (e.g., assistant superintendents, assistant principles, and curriculum directors) accessed via professional organizations and school district contacts.

Results revealed that, although many administrators may know about and value school wellness policies, very few report strong or even modest implementation in their schools. Stronger implementation, however, does appear to be significantly related to greater acceptance and value of school wellness needs, as well as to increased access to

funds. To assist schools in appropriate policy development and implementation, additional and ongoing training, guidance, and assistance with overcoming curriculum, training, financial, and time barriers may be necessary.

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CHAPTER I

INTRODUCTION

It has been widely acknowledged that the rates of childhood obesity in the United States are rising and the adverse consequences are becoming more prominent and clearly understood (CDC, 2007a; CDC, 2007b; Keener, Goodman, Lowry, Zaro, & Kettel Khan, 2009). Many have suggested that a preventative approach to remedying the trend might be to establish more positive lifestyle fitness patterns in childhood that will persist into adulthood and, further, that schools may be the most appropriate venue for intervention because schools serve more children than any other public agency (Greene & Adeyanju, 1991; Thomas, 2006).

Public Law 108-265, passed in 2004, mandated that schools establish wellness promotion policies, but the design, implementation, and monitoring of these policies appears to vary extensively from state-to-state and school district-to-school district (e.g., Metos & Nanney, 2007; SNA, 2006a; SNA, 2006b; SNA, 2008; SNA and School Nutrition Foundation, 2007; Tang et al., 2008). Further, many researchers have provided data regarding the nature, effectiveness, and acceptability of various initiatives, but there is a limited general understanding of key stakeholder perspectives and effective implementation of school wellness promotion initiatives. The current study presents the first comprehensive, nationally representative sample of school administrator's understanding, acceptance, and implementation of wellness interventions and also examines associations between schools' demographics and their respective administrator's knowledge, implementation, and acceptance of wellness promotion initiatives. Barriers to implementation are also discussed.

CHAPTER II

LITERATURE REVIEW

School wellness initiatives are not a new concept. Many schools have been implementing physical, health, and nutrition education programs for a long time. What is new, however, is the unswerving need for more consistent, more widely enforced, and more stringently monitored programs. Yet, many questions remain relatively unanswered. Why should *schools* be acting and what should they be doing? Do they have sufficient resources? Are policies understood and accepted by key stakeholders? Do any particular school characteristics or school personnel play a role in what is being done? For any schools who are not acting, what additional knowledge, resources, and directives might administrators need to take new actions or intensify their current actions?

Why Should Schools be Acting?

The prevalence of overweight and obesity among American adults and children has reached unprecedented heights, such that approximately 68% of U.S. adults and 17% of U.S. children and adolescents are overweight or obese and 34% are at-risk for becoming overweight (CDC, 2007a; Flegal, Carroll, Ogden, & Curtin, 2010; Ogden, Carroll, Curtin, McDowell, Tabak, & Flegal, 2006). Children in some states appear to be particularly impacted, as notable geographic differences have emerged (Singh, Kogan, & vanDyck, 2010). In 2007, the lowest prevalence of childhood obesity was in Utah (23.1%), while the highest was in Mississippi (44.5%). Higher rates were also noted in Illinois, Tennessee, Kentucky, West Virgina, Georgia, and Kansas (Singh, Kogan, & vanDyck, 2010). Estimates of obesity-related deaths also have varied extensively, from

about 50,000 to 400,000 or more per year (Mark, 2005). Ironically, an estimated 80% of obesity-related deaths could be prevented through healthier lifestyle choices (Shillingford & Mackin, 1991). In 2005, a study by Flegal, Graubard, Williamson, and Gail revealed that obesity contributed to nearly 112,000 excess deaths. Lifestyle patterns are generally established through experiential learning and, typically, individual levels of wellness are directly related to these lifestyle choices (Shillingford & Mackin, 1991). Body Mass Index (BMI), calculated using height, weight, and age, is typically considered an overall objective, quantitative indicator of an individual's level of wellness and past research has shown that by age 8 years, most children are in the BMI range that they will remain in for the rest of their life (Rolland-Cachera, Bellisle, & Sempe, 1988). Hence, it has been suggested that the best preventive strategy for remedying the injurious obesity trend might be to establish positive lifestyle fitness patterns in childhood that will persist into adulthood (Thomas, 2006). The CDC has outlined 24 community strategies and suggested measurement techniques for establishing healthier trends (Keener, Goodman, Lowry, Zaro, & Kettel Khan, 2009). These strategies include, but are not limited to, increasing and improving the availability of healthier food and beverage choices in public service venues, requiring and increasing the amount of activity in physical education classes in schools, increasing opportunities for extracurricular physical activity, and improving access to outdoor recreational facilities. Results from many programs and initiatives that have already been implemented in schools have demonstrated promising impacts on students' health, behavior, and overall well-being (e.g., Burke et al., 1996; Carlson et al., 2008; Cooper, 2005; Fahlman, Dake, McCaughtry, & Martin, 2008; Omizo, Omizo, & D'Andrea, 1992; Sahota, Rudolf, Dixey, Hill, Barth, & Cade, 2001).

These school interventions have began to address the obesity trend and subsequent health challenges by, for example, increasing students' fruit and vegetable consumption, decreasing unhealthy food consumption, increasing nutrition knowledge, and decreasing blood pressure and body fat.

What Are the Current Directives and Recommendations?

Given the increased need for wellness promotion and the potential to reach nearly all children in the school setting, many have asserted that school wellness initiatives may hold the most promise for making a positive change (Blom-Hoffman & DuPaul, 2003; Greene & Adeyanju, 1991; Kann et al., 1995; Weicha et al., 2004). The Institute of Medicine has recommended that schools take an active role in monitoring students' physical health by incorporating BMI screenings into the routine school screening process (Nihiser et al., 2007).

In 1995, the WHO introduced a framework for worldwide implementation of school health programs. This framework has since been labeled the *Health-Promoting Schools* initiative (Tang et al., 2008). Consistent with their definition of wellness, in 2010 the WHO defined a health-promoting school as one that continuously supports and intensifies efforts to facilitate a healthy atmosphere that supports triumph in academics, vocation, and life in general (WHO, 2010). Specifically, health-promoting schools use all available resources to accomplish the following:

- foster health and learning;
- involve all important individuals and organizations (e.g., heath and education officials, teachers and teachers' unions, students, families, health providers, and community leaders) in making the school a healthy place;

- promote a healthy environment and health education and services both within the school and larger community (e.g., provide health promotion programs for staff, nutrition and food safety programs, opportunities for physical activity and recreation, counseling and social support programs, and mental health promotion);
- provide consistent respect, opportunities for success, and positive reinforcement for individual achievements;
- aim to improve the overall health status of students, families, school personnel, and community members;
- and promote a better understanding of how the community and community practices can facilitate or undermine health and education.

In the United States, Public Law 108-265, passed in June of 2004, assigned responsibilities to schools, requiring all LEAs that participate in the National School Lunch Program to establish school wellness policies by June 2006. LEAs, rather than state or larger agencies, were deemed responsible for policy development to allow for the development of policies consistent with unique local needs. At minimum, schools are now *required* to establish wellness-promoting nutrition and physical education goals and policies with contributions from parents, students, the school board, school administrators, school food authorities, and the general public; provide nutritional guidelines for all foods provided on school campuses during the instructional day; be in compliance with guidelines outlined in the Child Nutrition Act and the Richard B Russell National School Lunch Act; establish a plan for implementing and monitoring wellness policies; and delegate at least one individual within the LEA to ensure that each school is acting in line with established policies (USDA Food and Nutrition Service, 2004). To ensure compliance with the requirements outlined in P.L. 108-265, schools are required to undergo two school food safety inspections per year and publicly post the results of their most recent inspection. It is important and interesting to note, however, that P.L. 108-265 was written vaguely and loosely, such that districts were required only to define

minimal standards, set general rather than specific goals, and did not include observable and measurable language (e.g., *encourage* rather than *require*). Further, Belansky and colleagues (2010) found that no clear penalties for inaction or noncompliance had been defined when examining the implementation of the mandated school wellness policies in Colorado.

Despite the limited direction outlined in the law, the CDC has outlined 10 strategies for appropriate school policies and practices to address childhood obesity (CDC, 2008). These strategies address several domains of school wellness, including health and physical education curriculum and programs, nutrition education, school meals and snacks, and increased opportunities for health promotion activities for both students and staff. Table provides a list of each of these strategies, as well as several examples and descriptions of previous research which have supported their effectiveness.

Table 1. Empirical Support for CDC Strategies

Strategy	Study	Description/Results
1. Address physical activity and nutrition through a Coordinated School Health Program (CSHP).	Fahlman et al. (2008)	Evaluation of nutrition component of Michigan Model for Health revealed subsequent increases in nutrition knowledge and fruit/vegetable intake and decreases in junk food intake.
	Gortmaker et al. (1999)	Evaluation of *Eat Well and Keep Moving* suggested that implementation resulted in increases in fruit/vegetable intake.
	Omizo et al. (1992)	Wellness promotion guidance and activities provided to students resulted in increased knowledge of wellness information and enhanced self-esteem.
2. Maintain an active school health council and designate a school health coordinator.	Davis et al. (2005)	Data from School Health Policies and Programs Study 2000 supported that districts with physical education coordinators were more likely to have policies/programs that aligned with national recommendations.

Table 1. Empirical Support for CDC Strategies (Continued)

Strategy	Study	Description/Results
3. Assess the school's health policies and programs and develop a plan for improvement.	Metos & Nanney (2007)	Found that about 1 in 4 Utah schools were not fully meeting requirements of P.L. 108-265
4. Strengthen the school's nutrition and physical activity policies.	Gortmaker et al. (1999)	Evaluation of the Eat Well and Keep Moving program suggested that implementation of the program resulted in increases in fruit and vegetable intake.
5. Implement a high-quality health promotion program for school staff.	Blair et al. (1987)	Health and physical activity program for school employees resulted in significant improvements in self-reported health status and health habits and decreased absenteeism.
6. Implement a high-quality course of study in health education.	Cooper (2005)	Decreased dropout rates, discipline referrals and disciplinary actions and increased graduation rates following 7 years of implementation of the CDC's School Health Model.
7. Implement a high-quality course of study in physical education.	Sallis et al. (1999)	Doubling the time spent in Physical Education classes each week did not harm academic achievement.
	Tremarche et al. (2007)	56 hours of physical education each week (versus 28) resulted in higher English Language Arts scores on a Massachusetts state assessment.
8. Increase opportunities for students to engage in physical activity.	Virgilio (1998)	Evaluation of the impact of school-wide health and fitness events showed significant positive impacts on students' health and behavior.
9. Implement a quality school meals program.	Sahota et al. (2001)	Evaluation of the APPLES program, which included modified school meals and implementation of healthy eating action plans, revealed significant increases in fruit and vegetable consumption.
10. Ensure that students have appealing, healthy choices in foods and beverages offered outside of the school meals program.	Carter & Swinburn (2004)	Studied students' food choices and noted that, when both 'more healthy' and 'less healthy' snack food choices were available at school, students chose 'less healthy' options at a rate of 9.3:1.

Although there is limited oversight and relatively nonexistent consequences for noncompliance with P.L. 108-265, there are incentives associated with appropriate compliance. The HealthierUS School Challenge (HUSSC) initiative, for example, was developed to recognize and award schools for their efforts in promoting good nutrition and physical activity and establishing healthier school environments. This recognition, which comes with a framed certificate, award banner, listing on the Team Nutrition websites, and four years of HUSSC certification, is provided to schools that enroll in the USDA's Team Nutrition initiative, offer nutritious school menus and additional food items and snacks based on the USDA nutrition standards and the *Dietary Guidelines for Americans,* and provide nutrition and physical education to students.

What Resources Are Available to Assist Schools with Wellness Initiative Implementation?

To assist schools with the financial burdens associated with the development, maintenance, and ongoing evaluation of school wellness programs, numerous federal, state, local, and organizational grants and other fund sources are available. At the federal level, in accordance with P.L. 108-265, schools can receive financial support of up to ½ cent per lunch provided as part of the National School Lunch program (Kolbe, Kann, & Brener, 2001; USDA Food and Nutrition Service). In addition, the USDA's Team Nutrition Program offers *Team Nutrition Training Grants* to state agencies that work to improve student's eating and physical activity habits and the U.S. Department of Education provide *Safe Schools/Health Students Grants* to support comprehensive education, mental health, law enforcement, juvenile justice system, and social services that promote healthy, safe, and drug-free school environments. Recently, Michelle

Obama has also associated monetary incentives with the HUSSC awards as part of her campaign to promote better childhood health (USDA, 2010). The Blue Cross Blue Shield Foundation provides state level funding for improving healthcare and access in low income communities. Non-profit and other large organizations offer grants as well, including the Robert Wood Johnson Foundation, the American Alliance for Health, Physical Education, Recreation and Dance (AAPHERD), and the National Dairy Council (USDA, 2010). Internet and web-based databases, including School Grants, the Center for Health and Health Care in Schools, and the National Association for Sport and Physical Education (NASPE), provide up-to-date listings of potential grant sources.

Beyond financial assistance, at the federal level, the CDC offers resources intended to assist schools in identifying effective strategies for promoting lifelong health eating habits and increased physical activity, including the free and downloadable *Guidelines for School Health Programs to Promote Lifestyle Healthy Eating* and *Brochures for Parents, Teachers, and Principals to Increase Physical Activity* (USDA, 2010).

Are Schools Implementing Wellness Programs?

The School Nutrition Association (SNA) and the CDC have provided the most extensive information regarding the implementation of coordinated school health policies and programs thus far (Kolbe, Kann, & Brener, 2001; SNA, 2006a, SNA, 2006b, SNA, 2008; SNA and School Nutrition Foundation, 2007). The SNA evaluated the policies of the nation's 100 largest school districts and then 140 additional, randomly-selected districts in seven regions across the country. Consistently across sites, they determined

that most of the schools written policies met the requirements of the law (87-99%), and two-thirds of sites included additional policies addressing nutrition standards for fund-raisers, classroom celebrations and parties, and use of food as classroom or student rewards. This was supported by another study published around the same time that investigated school wellness policies in 30 Utah school districts and found that the majority of these districts (78%) were in compliance with federal standards (Metos & Nanney, 2007). However, the connection between policies and actual implementation remains limited, as supported by study of 36 geographically-representative middle school physical education policies and program, which found that, while some positive policies were place, the implementation and monitoring of these policies and also the level of student engagement in the available programs were limited (Young, Felton, Grieser, Elder, Johnson, Lee, & Kubik, 2007). These studies suggest that, while most schools *policies* are encouraging and in line with the law, poor *practices* persist (e.g., inadequate participation by females, "free play" during physical education classes, cancelling physical education classes to accommodate special events), which suggests that there may be widespread differences in the understanding, acceptance, and enforcement of the policies. Interestingly, in the Metos and Nanney (2007) study, the districts with the lowest SES and highest rates of student eligibility for free and reduced lunch demonstrated the strongest policies, characterized by more nutrition, physical activity, school food and other wellness *mandates* than *recommendations*. However, in the Young and colleagues (2007) study, which focused specifically on physical education policies and programs, higher rates of free and reduced lunch were found to be associated with school environments that were less supportive of physical activity (Young et al., 2007).

Furthermore, evaluations conducted by the CDC in 1994 and 2000 revealed that, despite an increasing need for more rigorous health promotion programs, school health policies and programs have remained relatively stagnant and there has been decreasing oversight at the state level (Kolbe, Kann, & Brener, 2001). Although this may be due, in part, by the LEA responsibilities outlined in Public Law 108-265, it is somewhat ironic that, during a time when the need for coordinated school health promotion is more intense than ever before, schools have been given greater discretion and less direction and oversight in the coordination of physical education and fitness programs. However, although much work needs to be done and many improvements need to be made, many schools have emerged as leaders in the school wellness movement. According to the USDA (2010), as of September 2010, just over 840 schools across the US had been awarded HUSSC awards.

What Barriers Might be Standing in the Way of Stronger Implementation?

According to Story and colleagues (2009), despite school's assigned roles in obesity prevention efforts and the widespread availability of supportive resources, there is a dearth of scientific research available to assist with developing, implementing, and evaluating school-wide food and physical activity policies. There has been a widespread lack of consensus regarding appropriate initiative implementation, maintenance, monitoring, and effectiveness. St. Leger and Nutbeam (2000) suggested that this may be because many school wellness initiatives have been driven more by public health agencies rather than schools themselves (St. Leger & Nutbeam, 2000). Schools may not fully understand nor share the objectives of these public health agencies, yet since 2006

have been deemed more responsible for implementing and monitoring wellness policies. Additional documented barriers to program implementation include limited instructional time due to stringent reading, math, and other curricular standards; standardized testing requirements; inappropriate class sizes; lack of financial support; limited materials; lack of indoor venues for physical activity; lack of district support; lack of appropriately trained personnel; limited teacher, student, and parent buy-in; lack of understanding of students' health statuses and needs; and difficulties with monitoring implemented policies, programs, and activities (Hallfors & Godette, 2002; Leurs, Bessems, Schaalma, & Vries, 2007; Story et al., 2009; Young et al., 2007). To bridge these gaps and work towards a more united health promotion front, St. Leger and Nutbeam (2000) suggested working towards linking health curriculums with other school curriculums, developing a better understanding of elements that impact the implementation and sustainability of wellness programs, developing a better understanding of common teaching practices and professional development, examining cost-effectiveness, and developing a better understanding of the most important evaluative variables for wellness promotion programs. Similar objectives emerged from a 2007 meeting of the WHO's Technical Meeting on School Health. They identified five school health promotion target areas warranting further attention and investigation: building evidence and experience, strengthening implementation processes, alleviating social and economic hardship, harnessing (negative) media influences (on children's health practices), and improving partnerships among different sectors and organizations.

What Are School Administrators Thoughts Regarding Wellness Initiatives?

Because ecological and social validity, or the extent to which educators and school personnel view a given intervention as beneficial and acceptable for achieving desirable treatment goals, are central to systems change, evaluating and understanding key stakeholders' interest in and acceptance of school wellness policies and initiatives is crucial for successful implementation (Wolf, 1978). The terms social validity, treatment acceptability, and consumer satisfaction are often used interchangeably to describe the same construct, although the actual definitions vary to some degree (Eckert & Hintze, 2000). The importance of these variables has been recently supported in the school wellness promotion literature; Leurs and colleagues (2007) demonstrated that teachers who were knowledgeable about the importance of health promotion and who perceived health promotion to be important and acceptable within the school environment were more likely to teach more health issues in their classrooms than their teacher colleagues who viewed health promotion less favorably. Because school administrators have a greater stake in school-wide wellness promotion initiatives, however, additional insight regarding their knowledge, acceptance, and implementation of these initiatives may be beneficial.

What Other School Personnel Could Assist School Administrator's in Gaining Knowledge About and Implementing School Wellness Initiatives?

Although administrators likely possess the most guiding and influential role within schools, appropriate implementation and monitoring of a school-wide wellness promotion programs will likely require support from a broader range of school personnel. School psychologists may be one option for support, direction, and assistance, as they are

generally concerned with designing and implementing interventions that consumers agree with in terms of their own training and practice, view as sensible, practical, and effectual, and will likely implement with integrity (Gutkin & Curtis, 1999). Blom-Hoffman and DuPaul (2003), who assessed a Pennsylvania knowledge-based nutrition education curriculum for kindergarten through fifth-graders ("Every Day, Lots of Ways;" Bagby, Campbell, Achterberg, Probart, & Ebel, 1996), were the first to highlight the role of school psychologists in health promotion program implementation and evaluation. A more recent article in the primary publication of the National Association of School Psychologists, the *Communiqué*, further suggested that many school psychologists underestimate the need for advocating for school health promotion and physical activity (Fedewa & Clark, 2010). Because of this, the authors assert the need for school psychologists to highlight the importance of school-based health promotion and to work with school administrators and staff to integrate health promotion into existing curriculums. Fedewa and Clark (2010) specifically call upon school psychologists to serve as change agents and to take an active role in school health promotion. However, there is limited, if any, information available regarding the actual roles and involvement of school psychologists, or any other school personnel for that matter. There is also limited information available regarding the roles of other school personnel, although researchers have made notice of and recommendations regarding possible roles and responsibilities. A recent review of wellness policies in Pennsylvania, for example, suggested that superintendents and school food service directors take charge of the implementation of wellness policies (Probart, McDonnell, Weirich, Schilling, & Fekete, 2008). The American Dietetic Association (2010) has recommended that community and

school personnel join hands to ensure appropriate implementation of the CDC's strategies, that schools provide professional development opportunities related to school wellness to their staff, that school lunch personnel be properly trained by their directors, that classroom teachers provide 50 hours of nutrition education in their classrooms, and that administrators schedule recess before lunch and allot at least 30 minutes of time in the cafeteria for elementary students. Findings by Sallis and colleagues (1997) and Carroll and colleagues (2005) have provided some direction for physical education teachers, as they both found that more lifestyle-fitness-focused physical education programs, which include walking, jogging, cycling, aerobic dance, aerobic games, and jump-roping, facilitate stronger health benefits than traditional gym class activities.

CHAPTER III

PURPOSE

Ethical standards for school psychologists, set forth by the National Association of School Psychologists (NASP), iterate the responsibility of school psychologists to "appropriately utilize prevention [and] health promotion… based on knowledge of child development, psychopathology, diversity, social stressors, change, and systems" (NASP Professional Conduct Manual, 2000, Practice Guideline 7, p. 48). Because the most relevant and far-reaching system for children is the school, it is important for school psychologists to gain an understanding of important school system factors that may contribute to the utilization and perceived usefulness of health promotion and preventative interventions. In schools, factors such as the size of the target audience, the adaptability to local needs, and the degree of intervention-specific training influence the acceptance and utilization of preventative interventions, including those intended to promote wellness and prevent poor health habits and outcomes (Glasgow, Lichtenstein, & Marcus, 2003). Further, it may be important for school psychologists to gain a better understanding of the disconnect that school personnel may be experiencing between school wellness initiatives and other educational objectives, in order to help achieve the objectives for improving school wellness initiatives described by St. Leger and Nutbeam (2000). School administrators are key stakeholders and likely in the most influential position to evaluate these factors and make appropriate decisions. Blom-Hoffman and DuPaul (2003) suggest that school psychologists can facilitate the development, implementation, and outcomes of health promotion programs by conducting needs assessments focused on the perspectives of key stakeholders, selecting empirically-based

interventions that can be adapted to meet the local needs and environment, and planning for the monitoring of implementation integrity, acceptability, and overall efficacy. Conducting needs assessments and taking into account motivational factors and barriers experienced by important and influential school personnel will help to increase the impact of school wellness promotion initiatives (St. Leger & Nutbeam, 2000; Witt and Elliott, 1985). Interestingly, most program evaluations of wellness interventions to date have assessed primarily teacher, other school staff, and student/participant perception. One more recent study that did sample administrators from 36 geographically-representative schools focused only on physical activity initiatives, rather than the full scope of wellness initiatives, and only included middle schools (Young et al., 20007). While the inputs of all involved school personnel are important, in order for wellness initiatives to reach them, school administrators must first deem them important, acceptable, reasonable and beneficial. The intent of the current study was to conduct the first comprehensive, nationally representative survey of school administrator's understanding, acceptance, and implementation of comprehensive wellness interventions, including health, nutrition, and physical education components. In addition, data regarding school demographics and perceived barriers to implementation were assessed. Past research has suggested that, regardless of legislative mandates, implementation of educational initiatives is limited when school administrators lack knowledge about or do not fully support reform (e.g., Fullan, 2007). Consistent with Natasi and colleagues (2000) recommendations, an additional intention of the current study was to commence a partnership between school psychologists (interventionists) and school administrators (key stakeholders) that will help to facilitate high fidelity, long-lasting and effective

school wellness initiatives. Specifically, the current study addressed the following research questions:

1. Are there relationships between administrator's ratings of wellness knowledge, social validity, and/or implementation?
2. Are there differences between the administrators' building levels (i.e., elementary, middle/junior high, and high school) and wellness promotion initiative knowledge, implementation, or acceptability?
3. Are there differences between school's geographic region on implementation of wellness initiatives?
4. Is the percentage of students eligible for free or reduced lunch positively associated with administrator reports of wellness initiative implementation? (Metos & Nanney, 2007)
5. Is accessing and utilizing available grants and funding sources positively associated with wellness initiative implementation?
6. Which barriers are most often cited as interfering with wellness promotion initiative implementation?
7. Which school personnel are most frequently involved with wellness promotion initiatives?

CHAPTER III

METHOD

Participants

Participants included a random national sample of school superintendents, principals, and other school administrators (e.g., assistant superintendents, assistant principles, curriculum directors).

Procedure

Initially, a random number generator was used to randomly-select five states from each of the four US census regions (Midwest, Northeast, South, West). Once identified, internet searches using the keywords "[state] principals' organizations" and "[state] school administrators' organizations" were conducted to identify state organizations within each state to contact. For every state organization who denied participation or did not respond, an additional randomly-selected state from the region was contacted until state organizations from all 50 states had been contacted. Due to a limited response rate, additional, personalized contacts were made to the superintendents and principals of 20 randomly-selected school districts within one randomly-selected state per the Midwest, South, and West census regions and two randomly-selected states per the Northeast census region. A random number generator was used to identify the states, and a list of districts within those particular states was obtained from lists provided on their state department of education website or other websites located via an internet search (e.g., New Mexico State Principals' Association), and then a random number generator was used to identify twenty districts within each state. Once the 100 districts were identified,

email contacts for the district's superintendent and principals were located within each districts website, or made on the website via an electronic contact form.

Once participants were identified, consistent with recommendations by Dillman (2007), a four contact methodology was used. Participants first received a pre-notice email (See Appendices A and B), followed a few days later by a second email with a survey link (See Appendices C and D). Approximately one week after the survey-containing email, a thank-you email was sent expressing appreciation for those who responded and reminding those who had not that their input was still requested and valuable (See Appendices F and G). To those who had still not respond after the first three contacts, a final email was sent with a survey link and indication that a completed questionnaire had not yet been returned. This occurred approximately three weeks after the initial contact. As an incentive for participation, at the end of the survey, participants were provided an opportunity to enter their email into a drawing for a $25 Amazon Gift Card to be awarded upon completion of the study. A random number generator was used to randomly select a prize winner from the complete list of those who voluntarily entered the drawing and the award was delivered via email to the address provided.

Survey

A web-based survey was developed by the author to assess school administrator's knowledge, acceptance, value, and implementation of wellness initiatives (see Appendix E). Procedures outlined by Dillman (2007) were incorporated into the development of the items. For example, efforts were made to make response formats consistent and demographic items were asked at the end of the survey. A pilot version of the survey was

completed by 10 graduate students to assess readability. Overall, the survey took approximately 10 to 15 minutes, although some participants took as few as seven minutes and others took more than 15 minutes.

The survey consisted of three Sections. Section I consisted of 25 true and false items assessing knowledge of health and wellness and its relevance to the school environment. The items, which were selected from the literature review, were designed to assess knowledge related to wellness and school wellness initiatives. Table 2 provides each item, the research base for inclusion, and the correct response.

Table 2. Knowledge Items and Correct Responses

Item		Correct Response
1:	The World Health Organization defines a health-promoting school as one that supports triumph in academics, vocation, and life in general (WHO, 2010).	True
2:	By law, all schools who participate in the National Lunch Program must have written wellness policies in place (Public Law 108-265).	True
3:	By age 8 years, most children are in the BMI percentile range they will continue to be in for remainder of their life (Rolland-Cachera, Bellisle, & Sempe, 1988).	True
4:	Students who receive more hours of organized physical education have been shown to score higher on standardized tests (Tremarche, Robinson, and Graham, 2007).	True
5:	Time spent in physical education class harms academic achievement (Carlson et al., 2008; Coe et al., 2006; Cooper, 2005; Dwyer et al., 2001).	False
6:	The tools currently available to assist schools in developing and evaluating health and fitness policies and practices are costly (USDA, 2010).	False
7:	School health promotion is a world-wide initiative (WHO, 2010).	True
8:	Currently, State Education Departments are charged with developing and monitoring school health and physical activity policies (Kolbe, Kann & Brener, 2001; USDA, 2010).	False
9:	There are monetary incentives associated with promoting healthier school environments through nutrition and physical	True

Table 2. Knowledge Items and Correct Responses (Continued)

Item		Correct Response
	activity policies and promotions (USDA, 2010).	
10:	School health and physical activity promotion directives have been supported at local, state, national, and global levels (Kolbe, Kann, & Brener, 2001; USDA, 2010; WHO, 2010).	True
11:	Local education agencies and individual schools have no control over the development and implementation of school health and physical education/activity policies and programs (Kolbe, Kann, & Brener, 2001; Public Law 108-265).	False
12:	School wellness programs have been deemed the most influential means of addressing the obesity epidemic (Greene & Adeyanju, 1991).	True
13:	Most school's written health and physical education policies meet the requirements of the law (Kolbe, Kann, & Brener, 2001; SNA, 2006a, SNA, 2006b, SNA, 2008; SNA and School Nutrition Foundation, 2007).	True
14:	In general, federal school health and physical education policies have become increasingly stringent over the past decade (Kolbe, Kann, & Brener, 2001).	False
15:	Incorporating health education, physical education, and opportunities for physical activity within the school environment has demonstrated positive benefits on academic achievement, school behavior and performance, self-esteem, and nutrition knowledge and behavior (e.g., Burke et al., 1996; Carlson et al., 2008; Coe et al., 2006; Cooper, 2005; Dwyer et al., 2001; Fahlman et al., 2008; Gortmaker et al., 1999; Harrell et al., 1998; Omizo et al., 1992; Sahota et al., 2001; Tremarche, Robinson, and Graham, 2007).	True
16:	Studies have demonstrated that school districts with the highest rates of students eligible for free and reduced lunch have demonstrated the weakest wellness policies (Metos & Nanney, 2007).	False
17:	To date, public health agencies, rather than schools themselves, have driven school health promotion initiatives (St. Leger & Nutbeam, 2000).	True
18:	The World Health Organization introduced a framework for the implementation of school health programs over a decade ago (Tang et al., 2008).	True
19:	No federal guidance has been given to schools regarding how to develop and implement school wellness policies (USDA, 2000).	False
20:	The U.S. Center for Disease Control has recommended	True

Table 2. Knowledge Items and Correct Responses (Continued)

Item		Correct Response
	that schools increase and improve the availability of healthier food and beverage choices, increase the amount of physical education, increase opportunities for extracurricular physical activity, and improve access to outdoor recreation facilities (Keener, Goodman, Lowry, Zaro, & Kettel Khan, 2009).	
21:	There are no local, state, or federal grants that support school health promotion initiatives (Kolbe, Kann, & Brener, 2001; USDA, 2010).	False
22:	Today, most states require routine BMI screenings in schools (Nihiser et al., 2007).	False
23:	The Institute of Medicine has suggested that BMI measurements be administered as part of routine school screenings (Nihiser et al., 2007).	True
24:	It has been suggested that parents, students, school food authorities, school board members, school administrators, school psychologists, and the public should all be involved in the creation, adoption, and implementation of a school wellness promotion policy (Blom-Hoffman & DuPaul, 2003; Fedewa & Clark, 2010; USDA, 2000).	True
25:	Teachers' knowledge and perceptions about the importance and acceptability of health promotion is unrelated to their likelihood of teaching health issues in their classrooms (Leurs et al., 2007).	False

Section II assessed the respondents' perceived appropriateness, importance, and implementation of each of the ten CDC assertions regarding the most promising school policies and practices to address childhood obesity (Wechsler et al., 2004). Participants were asked a series of three questions (Appropriate, Importance, and Implementation). A four-point Likert scale (0 = not at all, 1 = somewhat, 2 = mostly, 3 = completely) was used. The same question format was used for each of the 10 CDC strategies; the strategy was provided (i.e., "The CDC has asserted that… [strategy]"), and three questions followed: Is this an appropriate standard? Is this an important standard? Is this being

implemented in your schools? For each item in which Implementation was rated as "Not at All," survey logic was used to elicit the specific barriers limiting implementation feasibility for that participant and his/her school/s.

At the end of the survey, in Section III, eleven survey items elicited information regarding the number and size, location, and demographics of the schools served, as well as administrator experience, staff utilization, and wellness initiatives and funding.

Survey data were collected, stored, and analyzed on the *Survey Monkey* website (www.surveymonkey.com). *Survey Monkey* is designed for multiple page, multiple question-type, and multiple respondent surveys and is equipped to sort, filter, remove, or edit individual responses, summarize collected responses, and export results into non-web-based analysis tools.

Data Analyses

Survey Monkey data were exported to Microsoft Excel and SPSS for analyses. Data were coded (e.g., 0-3 for Likert scale items; 0 for incorrect and 1 for correct on true/false items) and descriptive statistics were calculated for each section of the scale. Internal consistency statistics were calculated for the Knowledge scale. Pearson r correlations were calculated for Research Questions 1, 4, and 5 and pairwise deletion was used to accommodate missing data. Pairwise deletion removes a participant if his/her data is missing on both variables of interest. This method was selected due to the relatively independent nature of the variables. T-tests were used to investigate differences by building level for Research Question 2, a one-way ANOVA was run for Research Question 3, and percentages were calculated for Research Questions 6 and 7.

CHAPTER IV

RESULTS

Contacts with state administrator and principal organization leaders were initiated in late October 2010. Five randomly-selected states per census region were contacted. Following rejected or unsuccessful invitations, each remaining state in the region was contacted in random order until all were invited. Using this methodology, a total of five state organizations agreed to participate: Texas, Louisiana, Kentucky, Arkansas, Louisiana, and New Mexico. Of those who agreed, four of the five state organizations agreed to forward on invitation and survey information emails to their listservs, without providing any direct contact information to the researchers. The fifth state organization, in Texas, agreed to publish an announcement and request for participation in their electronic newsletter. Although it is difficult to ascertain how many administrators were actually reached with these methods of contact and, hence, response rates should be interpreted with caution, per report of the organization leaders (based on the number of total members belonging to their organization), an estimated 12,490 school administrators were contacted, but only 43 individuals (0.3% response rate) accessed the online survey. To elicit more responses, individual school district contacts were initiated in early February 2011. Emails were sent to both superintendents and school principals in the first randomly selected state in each region. Following those contacts, 20 additional districts in a second randomly-selected state were contacted in the Northeast region in attempt to secure a more representative nationwide sample. Although, just as with the first contact method, it is difficult to ascertain precisely how many administrators were reached, an estimated 550 to 570 additional contacts were made across the five states using the

second contact methodology, and an additional 68 respondents (12%) accessed the survey for a total of 111 participants. A summary of the two contact methods and their corresponding response patterns are provided in Table 3.

Table 3. Response Rate by Sampling Procedures

	Midwest	Northeast	South	West
Method 1				
# of States in Region	12	9	16	13
# of state organizations contacted	16	9	20	16
# of organizations "yes"	1	0	4	1
# of organizations "no"	0	3	2	0
# of organizations no response	15	6	14	15
Approx. # of invitation emails sent	2000	0	4600	90
Approx. # of newsletter contacts	0	0	5800	0
# of respondents	1	0	27	13
Response Rate (%)	0.05	--	0.26	14.44
Method 2				
# States included in method two	1	2	1	1
# of districts randomly selected	20	40	20	20
# of invitation emails sent	117	198	176	85
# of respondents	18	22	12	10
Response Rate (%)	15.38	11.11	6.82	11.76

Of the 111 total participants, 103 completed the survey skipping no more than five critical items. Responses in which more than five critical items regarding acceptability, importance, implementation, or school demographics were unanswered were removed because there were concerns that they may not convey an accurate picture of that respondent's particular school. Table 4 describes the demographics of the 103 survey participants.

Table 4. Demographics of Survey Participants

Demographic	n	Percent (%)
Administrators		
West	23	22.3
Midwest	19	18.4

Table 4. Demographics of Survey Participants (Continued)

Demographic	n	Percent (%)
Northeast	22	21.4
South	39	37.9
Role/Position		
Superintendent	22	21.4
Principal	73	70.9
Other	08	7.8
Years of Experience		
0-5	32	31.1
6-10	23	22.3
11-15	19	18.4
16-20	16	15.5
21 or more	13	12.6
Students Served		
0-500	28	27.2
501-1000	20	19.4
1001-1500	08	7.8
1501-2000	11	10.7
2001 or more	36	35.0
Schools Served		
0-2	77	74.8
3-5	11	10.7
6-8	09	8.7
9-11	05	4.9
12 or more	01	1.0
Students		
Age of Students		
Pre-Primary	50	49.0
Elementary	80	78.4
Middle/Junior High	49	48.0
High School and Beyond	38	37.3
Free and Reduced Lunch		
0-19%	06	5.8
20-39%	19	18.4
40-59%	30	29.1
60-79%	29	28.2
80% or more	19	18.4

Note. N= 103

Each census region was represented in the survey sample. There were approximately three times as many principals who participated than there were superintendents or other administrators, but this is expected given that there are typically

several principals to every superintendent in a district. The participants indicated a wide range of experience/years of employment, but approximately half reported administrating for ten years or less, which is consistent with previously-reported national data that indicated, on average, 8.75 and 9 years of experience for superintendents and principals, respectively (Gates, 2003). Although the vast majority of participants were involved at the elementary school level, which is again not unusual given that a typical district tends to have more elementary schools than high schools, there was representation for all school levels. Many respondents indicated serving more than one age range of students, which explains why the percentages total more than 100 percent. In addition, there was also representation from all socioeconomic statuses, as measured by rates of free and reduced lunch, but the majority of participants reported administrating schools where at least 40 percent of students were eligible for free or reduced lunch. This was consistent with the total national percentage of students receiving free and reduced lunch, which was 65.3% (USDA, 2011).

Research Question 1: *Are there relationships between administrator's ratings of wellness knowledge, social validity, and/or implementation?*

In Section I of the survey, participants answered 25 true and false items. Internal consistency of the scale was .428. Table 5 provides percent correct, mean and standard deviations for the Total Knowledge score (i.e., sum of each participant's Knowledge item scores) and the 25 Knowledge items.

Table 5. Descriptive Statistics for Knowledge Items

Knowledge Item	n	Correct Response	% Correct	Mean	SD
Total Knowledge	103	--	--	14.66	2.49
1	101	True	87.1	0.87	0.34
2	103	True	81.6	0.82	0.39
3	102	True	62.7	0.63	0.49
4	102	True	89.2	0.89	0.31
5	102	False	99.0	0.01	0.10
6	102	False	67.6	0.32	0.47
7	103	True	59.2	0.59	0.49
8	103	False	19.4	0.81	0.40
9	102	True	68.6	0.69	0.47
10	102	True	79.4	0.79	0.41
11	102	False	94.1	0.06	0.24
12	102	True	74.5	0.75	0.44
13	102	True	65.7	0.66	0.48
14	103	False	37.9	0.62	0.49
15	103	True	96.1	0.96	0.19
16	103	False	60.2	0.40	0.49
17	103	True	69.9	0.70	0.46
18	100	True	87.0	0.87	0.34
19	102	False	80.4	0.20	0.40
20	103	True	96.1	0.96	0.19
21	102	False	92.2	0.08	0.27
22	102	False	79.4	0.21	0.41
23	102	True	67.6	0.68	0.47
24	102	True	97.1	0.97	0.17
25	103	False	74.8	0.25	0.44

The assessment of social validity was two-fold and was comprised of two questions each for all ten CDC strategies. One question yielded participant's ratings of the appropriateness of each the ten strategies, while the second yielded ratings of importance of each of the ten strategies. These items were assessed on a Likert scale, with 0 indicating "Not at All" and 3 indicating "Completely." First, the Appropriateness and Importance ratings were analyzed individually by calculating *Total Appropriateness* and *Total Importance* ratings by summing each participant's Appropriateness and Importance ratings on each of the ten strategies. Then, to determine perceived *Total*

Social Validity, participants' Appropriateness and Importance ratings for all ten strategies were summed. Descriptive statistics for the Total Appropriateness, Importance and Social Validity scores and individual items assessing Appropriateness, Importance, Social Validity, and Implementation are provided in Table 6. Overall, the ratings related to social validity (i.e., Appropriateness, Importance, Social Validity) suggested widespread acceptance ('mostly' to 'completely' appropriate and important), but only modest implementation ('somewhat' to 'mostly' implemented).

Table 6. Descriptive Statistics for Items Assessing Appropriateness, Importance, and Implementation of CDC Strategies

Strategy	n	Mean	Standard Deviation
Total Appropriateness	103	21.85	6.91
Total Importance	103	22.45	6.03
Total Social Validity	103	44.33	11.95
Total Implementation	103	16.31	5.50
1 – Coordinated School Health Program			
Appropriateness	102	2.15	0.79
Importance	099	2.44	0.72
Implementation	102	1.65	0.71
2 – Health Council And Coordinator			
Appropriateness	099	2.00	0.99
Importance	100	2.10	0.93
Implementation	099	1.43	1.05
3 – Assess Policies/ Plan for Improvement			
Appropriateness	100	2.24	0.87
Importance	098	2.28	0.83
Implementation	101	1.58	0.83
4 – Strengthen Nutrition/ PE Policies			
Appropriateness	099	2.34	0.74
Importance	098	2.40	0.76
Implementation	100	1.80	0.77
5 – Health Promotion Program for Staff			
Appropriateness	099	2.03	0.91

Table 6. Descriptive statistics for items Assessing Appropriateness, Importance, and Implementation of CDC Strategies (Continued)

Strategy		n	Mean	Standard Deviation
	Importance	097	2.11	0.81
	Implementation	091	1.15	0.78
6 –	High Quality Health Education			
	Appropriateness	102	2.34	0.74
	Importance	099	2.37	0.70
	Implementation	103	1.68	0.93
7 –	High Quality Physical Education			
	Appropriateness	094	2.51	0.73
	Importance	092	2.55	0.69
	Implementation	094	2.10	0.82
8 –	Increased Opportunities For Physical Activity			
	Appropriateness	101	2.46	0.69
	Importance	099	2.47	0.70
	Implementation	102	1.96	0.84
9 –	High Quality School Meals Program			
	Appropriateness	102	2.66	0.70
	Importance	101	2.72	0.62
	Implementation	103	1.96	0.87
10 –	Healthy Choices Outside School Meals Program			
	Appropriateness	101	2.12	0.97
	Importance	100	2.11	0.96
	Implementation	102	1.39	0.94

Note. N = 103
0 = ‘not at all’; 1 = ‘somewhat’; 2 = ‘mostly’; 3 = ‘completely’

To examine the relationship between Total Knowledge and ratings of Appropriateness, Importance, and Social Validity, Pearson r correlations were calculated. Table 7 depicts these correlations. Missing data was handled using pairwise deletion and only cases in which there was missing data for both variables were removed. Although no significant results emerged with participants’ Total Knowledge scores, several significant correlations emerged between the Social Validity and Implementation scales. Total

Acceptability was significantly related to Total Importance $r(101) = 0.71$, $p < .001$, which made sense that both Acceptability and Importance were proposed to assess Social Validity. Total Implementation was significantly related to each of the three Social Validity scales: Total Appropriateness, $r(101) = 0.47$, $p < .001$, Total Importance, $r(101) = 0.40$, $p < .001$, and Total Social Validity, $r(101) = 0.48$, $p < .001$.

Table 7. Relationships between Knowledge, Appropriateness, Importance, and Social Validity

Scale	Total Knowledge	Appropriateness	Importance	Social Validity	Implementation
Total Knowledge	--	.029	.006	.020	-.121
Appropriateness	--	--	.702**	--	.473**
Importance	--	--	--	--	.399**
Social Validity	--	--	--	--	.475**

Notes. **$p < 0.01$

In addition to examining relationships between the total scales, relationships between the Social Validity and Implementation of each of the individual CDC strategies and Total Knowledge were examined. These results are provided in Table 8. Total Knowledge scores were found to be significantly related to participants' Acceptability ratings for CDC Strategy 1 (addressing health and physical activity through a coordinated school health program, $r(101) = 0.24$, $p = .016$).

Table 8. Correlations between Total Knowledge and Social Validity and Implementation Scales

CDC Strategy	Appropriateness	Importance	Social Validity	Implementation
1	.238*	.041	.058	.013
2	.110	.041	.005	.039
3	.112	.022	.043	.002
4	.181	-.007	.031	.091
5	.033	-.109	-.031	-.001
6	.138	-.023	-.023	-.115
7	.010	-.049	-.045	-.043

Table 8. Correlations between Total Knowledge and Social Validity and Implementation Scales (Continued)

8	.013	- .090	- .092	- .023
9	- .075	.079	.002	.082
10	.035	.134	.169	.058

Note. $*p < 0.05$

Research Question 2: *Are there differences between the administrators' building levels (i.e., elementary, middle/junior high, and high school) and wellness promotion initiative knowledge, acceptability, importance, social validity, or implementation?*

In Section III, participants were asked to identify their building level. Due to the nature of the building level question in the survey, in which participants could select more than one level, a series of t-tests were used to examine potential differences in Knowledge, Appropriateness, Importance, Social Validity and Implementation at the different building levels. Missing data were handled on a case by case basis, and a participant's data were removed if there was missing data on either relevant variable.

Table 9 provides descriptive data for Total Knowledge by building level. No significant differences by building level emerged.

Table 9. Knowledge by Building Level

	N	Mean	t	df
Preprimary	49	14.38 (2.21)	1.06	101
Elementary School	80	14.65 (2.54)	0.08	101
Middle School/Junior High	49	14.84 (2.47)	- 0.68	101
High School	38	14.63 (2.31)	0.09	101

Similar to the Knowledge scales, no significant differences by building level emerged for the Total Appropriateness, Total Importance, or Total Social Validity scales. Means and standard deviations are provided in Table 10.

Table 10. Social Validity and Implementation by Building Level

	n	df	Total Appropriateness	t	Total Importance	t	Total Social Validity	t	Total Implementation	t
Pre-Primary	49	101	22.08 (6.47)	-0.33	22.39 (6.50)	0.16	44.47 (11.96)	-0.11	15.49 (5.59)	1.45
Elementary	80	101	21.58 (7.00)	0.74	22.21 (6.03)	0.86	43.79 (12.01)	0.86	16.04 (5.71)	0.94
Middle/ Junior	49	101	21.90 (7.54)	-0.07	22.18 (6.22)	0.48	44.08 (12.94)	0.20	16.67 (5.96)	-0.64
High School	38	101	22.45 (6.21)	- 0.68	21.82 (5.39)	0.86	44.26 (11.04)	0.04	16.71 (5.81)	-0.56

When each of the strategies was examined individually, however, notable differences by level did emerge (see Table 11). High school administrators reported significantly different levels of Implementation for CDC Strategies 6, $t(101) = -3.00$, $p = .003$ and 8, $t(100)$, $p = .011$. On Strategy 6, high school administrators reported greater implementation, while on Strategy 8 they reported less implementation.

Table 11. Individual Strategy Social Validity and Implementation by Building Level

	n	df	Social Validity	t	Implementation	t
Strategy 1						
Pre-Primary	54	101	4.37 (1.44)	0.72	1.53 (0.62)	1.34
Elementary	80	101	4.46 (1.45)	0.17	1.61 (0.72)	0.48
Middle/ Junior High	54	101	4.47 (1.61)	0.04	1.65 (0.78)	- 0.29
High School	65	101	4.16 (1.53)	1.72	1.68 (0.74)	- 0.57
Strategy 2						
Pre-Primary	54	101	4.20	-1.21	1.41	- 0.27

Table 11. Individual Strategy Social Validity and Implementation by Building Level (Continued)

	n	df	Social Validity	t	Implement-ation	t
			(1.96)		(1.04)	
Elementary	80	101	4.00	-0.38	1.38	0.06
			(1.90)		(1.08)	
Middle/ Junior High	54	101	3.98	-0.09	1.35	0.29
			(2.08)		(1.97)	
High School	65	101	3.89	0.27	1.45	-0.50
			(2.08)		(1.15)	
Strategy 3						
Pre-Primary	54	101	4.33	0.07	1.45	1.19
			(1.72)		(1.91)	
Elementary	80	101	4.31	0.29	1.54	0.35
			(1.77)		(0.90)	
Middle/ Junior High	54	101	4.27	0.41	1.61	-0.67
			(1.91)		(0.91)	
High School	65	101	4.32	0.11	1.61	-0.47
			(1.82)		(0.89)	
Strategy 4						
Pre-Primary	54	101	4.57	-0.72	1.65	1.13
			(1.41)		(0.86)	
Elementary	80	101	4.46	-0.08	1.76	-0.35
			(1.52)		(0.86)	
Middle/ Junior High	54	101	4.35	0.69	1.80	-0.57
			(1.68)		(0.89)	
High School	65	101	4.32	0.71	1.71	0.35
			(1.63)		(0.90)	
Strategy 5						
Pre-Primary	54	101	4.29	-0.78	1.12	0.05
			(1.53)		(0.81)	
Elementary	80	101	4.21	-0.60	1.10	0.63
			(1.49)		(0.82)	
Middle/ Junior High	54	101	4.16	0.01	1.16	-0.45
			(1.53)		(0.75)	
High School	65	101	4.03	0.72	1.08	0.46
			(1.46)		(0.75)	
Strategy 6						
Pre-Primary	54	101	4.61	-0.07	1.65	0.27
			(1.60)		(0.95)	
Elementary	80	101	4.46	1.81	1.60	1.63
			(1.56)		(0.94)	
Middle/ Junior High	54	101	4.71	-0.74	1.80	-1.65
			(1.38)		(0.90)	

Table 11. Individual Strategy Social Validity and Implementation by Building Level (Continued)

	n	df	Social Validity	t	Implement-ation	t
High School	65	101	4.76 (1.32)	-0.85	2.03 (0.85)	-3.00*
Strategy 7						
Pre-Primary	54	101	4.51 (2.01)	0.26	1.73 (0.95)	1.77
Elementary	80	101	4.41 (2.02)	1.45	1.88 (0.99)	0.72
Middle/ Junior High	54	101	4.63 (1.82)	-0.34	1.88 (0.95)	0.34
High School	65	101	4.79 (1.45)	-0.90	1.82 (0.80)	0.76
Strategy 8						
Pre-Primary	54	101	4.61 (1.50)	0.40	1.86 (0.89)	0.95
Elementary	80	101	4.59 (1.45)	1.11	1.98 (0.87)	- 0.73
Middle/ Junior High	54	101	4.49 1.40	1.24	1.84 (0.80)	1.18
High School	65	101	4.63 (1.15)	0.21	1.68 (0.84)	2.37*
Strategy 9						
Pre-Primary	54	101	4.84 (1.51)	0.89	1.80 (0.87)	1.85
Elementary	80	101	4.88 (1.41)	1.20	1.91 (0.89)	1.06
Middle/ Junior High	54	101	4.98 (1.28)	-0.13	2.10 (0.85)	-1.57
High School	65	101	5.13 (0.93)	-0.97	2.13 (0.84)	-1.52
Strategy 10						
Pre-Primary	54/53	101/ 100	4.12 (1.93)	0.02	1.89 (0.87)	1.12
Elementary	80/79	101/ 100	4.00 (1.96)	1.35	1.30 (0.94)	1.79
Middle/ Junior High	54/53	101/ 100	4.02 (2.04)	0.52	1.45 (1.04)	- 0.58
High School	65/64	101/ 100	4.21 (1.80)	-0.33	1.53 (0.86)	- 1.11

Notes. 0 = 'not at all'; 1 = 'somewhat'; 2 = 'mostly'; 3 = 'completely'
'/' used when n or df differ for Social Validity and Implementation of Strategy
*$p < 0.05$

Research Question 3: *Are there differences between schools' geographic region on implementation of wellness initiatives?*

In Section III, participants were asked to indicate the geographic region in which they work. Means and standard deviations for implementation levels are provided in Table 12.

Table 12. Means and Standard Deviations for Implementation by Geographic Region

Strategy	Midwest	Northeast	South	West
Total Implementation	17.84 (4.84)	16.41 (5.04)	16.12 (5.70)	15.26 (6.12)
1	1.63 (0.68)	1.55 (0.67)	1.72 (0.69)	1.64 (0.85)
2	1.53 (1.17)	1.20 (0.95)	1.61 (1.03)	1.27 (1.08)
3	1.95 (0.78)	1.50 (0.80)	1.59 (0.80)	1.35 (0.88)
4	2.00 (0.82)	1.62 (0.59)	1.81 (0.84)	1.78 (0.74)
5	1.11 (0.74)	1.38 (0.86)	1.13 (0.66)	1.00 (0.90)
6	2.11 (0.88)	2.09 (0.87)	1.49 (0.91)	1.26 (0.81)
7	2.05 (0.91)	2.18 (0.66)	2.03 (0.85)	2.15 (0.88)
8	1.84 (0.83)	2.09 (0.92)	1.84 (0.86)	2.13 (0.76)
9	2.11 (0.74)	1.91 (1.11)	1.92 (0.84)	1.96 (0.82)
10	1.53 (0.96)	1.19 (0.75)	1.56 (0.99)	1.13 (0.92)

One-way ANOVAs of Total implementation by geographic region revealed no significant results (see Table 13).

Table 13. Analysis of Variance for Total Implementation

CDC Strategy	df	F	η	p
	Between subjects			
Total	3	0.782	23.807	.507
Within-group error	99	(30.451)		

Note. Value enclosed in parentheses represents mean square error

Significant results did emerge, however, when each CDC strategy was examined separately. Table 14 depicts the break-down of the Implementation data for each of the 10 CDC strategies by geographic region. Missing data were handled case-by-case and

data for participants with missing data on either variable were removed. Results indicated a between groups difference on CDC Strategy 6 (implementing a high quality course of study in health education; F(3,99) = 5.50, p = 002) at the .05 significance level. Post-hoc comparisons, using the Bonferroni method (one of the most restrictive in terms of statistical rigor), revealed significantly lower implementation in the West, compared to both the Midwest and Northeast.

Table 14. Analysis of Variance for Implementation of Each Strategy

CDC Strategy	df	F	η	p
	Between subjects			
1	3	0.276	0.143	.842
Within-group error	98	(.519)		
2	3	0.885	0.981	.452
Within-group error	95	(1.109)		
3	3	1.978	1.317	.122
Within-group error	97	(.666)		
4	3	0.826	0.486	.483
Within-group error	96	(.589)		
5	3	0.924	0.563	.432
Within-group error	97	(.609)		
6	3	5.504**	4.214	.002
Within-group error	99	(.766)		
7	3	0.194	0.133	.900
Within-group error	90	(.686)		
8	3	0.857	0.612	.466
Within-group error	98	(.714)		
9	3	0.218	0.170	.884
Within-group error	99	(.781)		
10	3	1.670	1.431	.179
Within-group error	98	(.857)		

Note. Value enclosed in parentheses represents mean square error
**p < .01

Research Question 4: *Is the percentage of students eligible for free or reduced lunch positively associated with administrator reports of wellness initiative implementation?*

Participants were asked to provide information regarding the percentage of students in their school(s) eligible for free and/or reduced lunch in Section III. Implementation of the 10 CDC strategies by percentages of students eligible for free and/or reduced lunch is summarized in Table 15. Implementation means and standard deviations for each level of free and reduced lunch (total and each strategy) are provided.

Table 15. Implementation Means and Standard Deviations by % Free/Reduced Lunch

Strategy	0-19%	20-39%	40-59%	60-79%	80% +
Total	18.50 (2.26)	18.63 (5.91)	15.53 (4.54)	15.31 (5.80)	16.05 (6.29)
1	1.83 (0.75)	1.68 (0.67)	1.53 (0.68)	1.64 (0.62)	1.74 (0.93)
2	2.17 (0.98)	1.47 (1.18)	1.33 (1.03)	1.19 (1.04)	1.68 (0.95)
3	2.50 (0.55)	1.78 (0.85)	1.47 (0.73)	1.48 (0.85)	1.42 (0.84)
4	2.33 (0.52)	2.00 (0.77)	1.79 (0.77)	1.54 (0.69)	1.84 (0.83)
5	1.33 (0.52)	1.21 (0.92)	1.03 (0.68)	1.29 (0.81)	1.00 (0.82)
6	2.33 (0.82)	2.21 (0.71)	1.57 (0.97)	1.55 (0.91)	1.32 (0.88)
7	1.50 (0.55)	2.47 (0.61)	2.04 (0.76)	1.92 (0.84)	2.25 (1.00)
8	2.50 (0.55)	2.32 (0.67)	1.69 (0.81)	1.83 (0.89)	2.05 (0.91)
9	1.00 (0.89)	2.26 (0.99)	1.90 (0.76)	2.07 (0.80)	1.89 (0.88)
10	1.00 (0.63)	1.56 (0.98)	1.53 (0.90)	1.34 (1.01)	1.21 (0.92)

Note. N= 103; n(0-19%)= 6; n(20-39%)= 19; n(40-59%)= 30; n(60-79%)= 29; n(80% +)= 19

The relationship between Total Implementation and free and reduced lunch was insignificant, but when examined individually, significant correlations emerged for CDC Strategies 3, $r(99) = -0.25$, $p = .008$, and 6, $r(101) = -0.32$, $p = .001$. Administrators who reported lower rates of free and reduced lunch reported greater implementation of these strategies. Table 16 depicts these results.

Table 16. Relationships Between Implementation and % Free/Reduced Lunch

Strategy	Implementation
Total	- .169
1	.008
2	- .037
3	- .250*
4	- .146
5	- .060

Table 16. Relationships Between Implementation and % Free and Reduced Lunch (Continued)

Strategy	Implementation
6	- .324**
7	.103
8	- .127
9	.062
10	- .060

Note. *$p < 0.05$; **p <0.01

Research Question 5: *Is accessing and utilizing available grants and funding sources positively associated with wellness initiative implementation?*

Information regarding access to grant funds was solicited from participants in Section III via a yes/no question (*To your knowledge, has/have your school/s applied for or received any grants to aid with school wellness promotion initiatives?*). Access to grant funding resulted in significantly greater Total Implementation of the CDC strategies, $r(101) = 0.31$, $p = .002$. Some notable differences also emerged for several of the individual strategies: 1 ($p = .005$), 2 ($p = .001$), 3 ($p = .010$), 5 ($p = .006$), and 6 ($p = .029$). Table 17 provides means and standard deviations for Total Implementation and Implementation of each of the ten strategies by access to grant funds.

Table 17. Means and Standard Deviations by Access to Grant Funds

	No		Yes	
Strategy	n	Mean (SD)	n	Mean (SD)
Total				
1	60	1.47 (.623)	44	1.87 (.763)
2	58	1.14 (.981)	43	1.83 (.999)
3	60	1.40 (.785)	43	1.82 (.820)
4	61	1.69 (.807)	41	1.94 (.679)
5	60	0.97 (.736)	43	1.39 (.762)
6	61	1.51 (.942)	44	1.90 (.860)
7	53	2.04 (.876)	43	2.14 (.750)
8	60	1.88 (.804)	44	2.04 (.893)
9	61	1.89 (.858)	44	2.04 (.892)
10	60	1.40 (.960)	44	1.37 (.891)

Research Question 6: *Which barriers are most often cited as interfering with wellness promotion initiative implementation?*

In Section II, when participants indicated "Not at All" in regards to the implementation of any of the CDC strategies, they were asked to indicate any barriers preventing the implementation of that strategy. The barriers noted by respondents were first analyzed separately for each CDC strategy. Table 18 provides a summary of the barriers noted for each strategy. For the first strategy (Strategy 1), only one participant indicated that a coordinated school health program had not been implemented in their school(s), citing acceptability, time, cost of materials, and lack of adequately trained personnel as barriers.

Table 18. Cited Barriers to Implementation of CDC Strategies

Barrier	Count	Percent (%)	% of Total sample
Total of all 10 Strategies			
Acceptability/Buy-In	37	13.9	--
Time	64	24.1	--
Cost of Materials	40	15.0	--
Lack of Adequately Trained Personnel	51	19.2	--
Curriculum Requirements	42	15.8	--
Standardized Testing Standards	11	04.1	--
Other	21	07.9	--
CDC Strategy 1 (n=1)			
Acceptability/Buy-In	01	25.0	01.0
Time	01	25.0	01.0
Cost of Materials	01	25.0	01.0
Lack of Adequately Trained Personnel	01	25.0	01.0
Curriculum Requirements	00	00.0	00.0
Standardized Testing Standards	00	00.0	00.0
Other	00	00.0	00.0
CDC Strategy 2 (n=20)			
Acceptability/Buy-In	08	13.3	07.8
Time	16	26.7	15.5
Cost of Materials	04	06.7	03.9
Lack of Adequately Trained Personnel	15	25.0	14.6
Curriculum Requirements	11	18.3	10.7

Table 18. Cited Barriers to Implementation of CDC Strategies (Continued)

Barrier	Count	Percent (%)	% of Total sample
Standardized Testing Standards	02	03.3	01.9
Other	04	06.7	03.9
CDC Strategy 3 (n=7)			
Acceptability/Buy-In	02	10.5	01.9
Time	05	26.3	04.9
Cost of Materials	01	05.3	01.0
Lack of Adequately Trained Personnel	04	21.1	03.9
Curriculum Requirements	06	31.6	05.8
Standardized Testing Standards	01	05.3	01.0
Other	00	00.0	00.0
CDC Strategy 4 (n=2)			
Acceptability/Buy-In	02	28.6	01.9
Time	01	14.3	01.0
Cost of Materials	00	00.0	00.0
Lack of Adequately Trained Personnel	02	28.6	01.9
Curriculum Requirements	02	28.6	01.9
Standardized Testing Standards	00	00.0	00.0
Other	00	00.0	00.0
CDC Strategy 5 (n=19)			
Acceptability/Buy-In	10	16.7	09.7
Time	15	25.0	14.6
Cost of Materials	07	11.7	06.8
Lack of Adequately Trained Personnel	11	18.3	10.7
Curriculum Requirements	08	13.3	07.8
Standardized Testing Standards	04	06.7	03.9
Other	05	08.3	04.9
CDC Strategy 6 (n=9)			
Acceptability/Buy-In	03	09.7	02.9
Time	09	02.9	08.7
Cost of Materials	02	06.5	01.9
Lack of Adequately Trained Personnel	06	19.4	05.8
Curriculum Requirements	08	25.8	07.8
Standardized Testing Standards	02	06.5	01.9
Other	01	03.2	01.0
CDC Strategy 7 (n=9)			
Acceptability/Buy-In	04	16.7	03.9
Time	05	20.8	04.9
Cost of Materials	03	12.5	02.9
Lack of Adequately Trained Personnel	04	16.7	03.9
Curriculum Requirements	05	20.8	04.9
Standardized Testing Standards	01	04.2	01.0
Other	02	08.3	01.9
CDC Strategy 8 (n=4)			

Table 18. Cited Barriers to Implementation of CDC Strategies (Continued)

Barrier	Count	Percent (%)	% of Total sample
Acceptability/Buy-In	02	22.2	01.9
Time	03	33.3	02.9
Cost of Materials	00	00.0	00.0
Lack of Adequately Trained Personnel	02	22.2	01.9
Curriculum Requirements	01	11.1	01.0
Standardized Testing Standards	01	11.1	01.0
Other	00	00.0	00.0
CDC Strategy 9 (n=5)			
Acceptability/Buy-In	00	00.0	00.0
Time	00	00.0	00.0
Cost of Materials	03	37.5	02.9
Lack of Adequately Trained Personnel	01	12.5	01.0
Curriculum Requirements	00	00.0	00.0
Standardized Testing Standards	00	00.0	00.0
Other	04	50.0	03.9
CDC Strategy 10 (n=17)			
Acceptability/Buy-In	05	14.7	04.9
Time	09	26.5	08.7
Cost of Materials	09	26.5	08.7
Lack of Adequately Trained Personnel	05	14.7	04.9
Curriculum Requirements	01	02.9	01.0
Standardized Testing Standards	00	00.0	00.0
Other	05	14.7	04.9

Although all of the barriers were endorsed to some degree by the 20 participants (about 19%) who indicated that their school(s) had not designated a health coordinator or council (Strategy 2), the most frequently cited barriers were time and lack of adequately trained personnel, which were both cited by at least one quarter of the individuals who indicated that the strategy had not been implemented within their school(s).

All but seven respondents indicated having at least evaluated their school's health policies and programs and developed a plan for improvement (Strategy 3). Of those seven respondents, six cited curriculum requirements as a barrier, five cited time as a barrier, and four cited lack of adequately trained personnel as a barrier.

Similar to the first strategy, all but two survey respondents indicated that they had strengthened their nutrition and physical education programs (Strategy 4). The two that indicated they had not or were not strengthening these programs both cited acceptability/buy-in, lack of adequately trained personnel, and curriculum requirements as barriers. One of the two also endorsed time as a barrier.

A larger proportion of respondents (just over 18%) reported that no health promotion program had been designed or implemented for school staff (Strategy 5). Lack of time was the most highly endorsed barrier, but lack of adequately trained personnel and buy-in were also endorsed quite highly.

Of the 103 total participants, 94 indicated at least partial implementation of a high quality health education program in their school(s) (Strategy 6). All nine respondents who indicated no implementation of a high quality health education cited time as a barrier. Curriculum requirements and lack of adequately trained personnel were also cited by at least two-thirds of these individuals.

Just as with high quality health education initiatives, 94 respondents indicated at least partial implementation of high quality physical education programs (Strategy 7). All of the barrier selections were endorsed to some degree, with no primary barriers emerging. Standardized testing standards was least endorsed as a barrier to physical education program implementation.

It appears that many schools are increasing opportunities for students to engage in physical activity (Strategy 8). Only four respondents indicated not doing so and time, acceptability/buy-in, and lack of adequately trained personnel were referenced as barriers.

High quality school meal programs (Strategy 9) were reportedly implemented in all but five respondents schools. Of those four, three indicated that all of their students bring their own lunches either because of their size or unique school setting or program. Cost of materials was the most frequently referenced barrier for not providing a school meals program.

Information provided by the current survey participants suggested that providing healthy choices available outside the school lunch program (Strategy 10) may be one of the most challenging of the CDC strategies. A total of 19 school administrators indicated that this was not at all implemented in their school(s). Cost of materials and time were endorsed most frequently as inhibiting the implementation of this strategy.

When the cited barriers for all ten CDC strategies were considered together, 'time' emerged as the most predominant barrier, although all of the barriers except 'standardized testing standards' were endorsed by more than 30 individuals each.

Research Question 7: *Which school personnel are most frequently involved with wellness promotion initiatives?*

In Section III, participants were asked to identify which of their school personnel were involved in their school's wellness initiatives. Table 19 summarizes the overall involvement of school personnel in wellness initiatives. The majority of participants (70% or more) indicated that their school nurse(s), physical education teacher(s), and general education teachers were most often involved with school wellness initiatives. Just fewer than 30% of participants indicated that their special education teachers were involved. Very few participants reported that their ancillary or related service staff

members (i.e., school psychologist, physical therapist, occupational therapist) are frequently involved. Additional involved school personnel cited by participants included the school counselor and guidance staff, school health coordinator, superintendent, assistant administrators, and youth service coordinator. Parents, school Boards of Education, and community wellness agencies were also mentioned by one or more respondents.

Table 19. School Personnel Involved in Wellness Initiatives

Personnel	Percent (%)
School Psychologist	08.8
School Nurse	88.2
Physical Education Teacher	84.3
General Education Teachers	72.5
Special Education Teachers	29.4
School Principal	77.5
Physical Therapist	08.8
Occupational Therapist	09.8
Kitchen Staff	77.5
Other	16.7

Note. N= 102

CHAPTER V

DISCUSSION

Knowledge, Social Validity, and Implementation

School wellness promotion initiatives are supported and directed at the state, federal, and global levels (e.g., WHO, CDC, USDA) and recent legislation (Public Law 108-265) has mandated that LEAs develop wellness policies. Yet these policies continue to vary extensively from state-to-state and school district-to-school district (e.g., Metos & Nanney, 2007; SNA, 2006a; SNA, 2006b; SNA, 2008; SNA and School Nutrition Foundation, 2007; Tang et al., 2008). The current study aimed to examine not only the implementation of these policies nationwide, but also school administrators' knowledge and perceived social validity of both general wellness information and school wellness promotion initiatives. Results revealed that, although many administrators may know about and value school wellness policies (i.e., on all but one item, more than half of participants answered correctly, and on 13 of the 25 items, more than 75% answered correctly), very few report strong or even modest implementation in their schools. Although this may not be uncommon, as low implementation fidelity has been noted with many school and non-school prevention programs and initiatives, it is nonetheless concerning (e.g., Durlak, 1995; Gresham, 1993). It has been suggested that in order for prevention programs to be effective one or more staff members need to engage in prevention activities routinely and over time and 71% of the prevention policies and 54% of the methods need to be identified as best practices (Gottfredson, Gottfredson, Czeh, Cantor, Crosse, & Hantman, 2000). It is important to note, however, the analyses and correlations of the Knowledge items are limited in that it is difficult to determine whether

they measure the relevant construct. Further investigations of the validity of the Knowledge scale or of any scale that might assess administrators' school wellness knowledge would be advantageous.

To gauge administrators' acceptance, value and implementation of school wellness initiatives, participants were additionally asked to comment on the ten school wellness promotion strategies outlined by the CDC. On average, all ten of the strategies were rated mostly to completely appropriate and important. It may be important to consider the potential impact of social desirability or impression management on these ratings, however. Social desirability and/or impression management is typically defined as respondents' tendencies to answer untruthfully in order to convey a more positive self-image, or in this specific case, a more positive image for their school or schools (Uziel, 2010). The implementation results, which showed that only Strategy 7 (implementing a high quality course of study in physical education) showed a similarly high rate of implementation, suggest that participating administrators may have demonstrated these tendencies. A recent study in 45 rural Colorado schools, in which schools were found only to have weakly written policies and only a few implemented evidence-based wellness promotion strategies, noted implementation levels similar to those noted in the current study (Belansky, Cutforth, Delong, Litt, Gilbert, Scarbro, … Marshall, J.A., 2010). Health promotion programs for staff and healthy alternatives outside the school lunch program seem to pose the most challenges for schools, which is consistent with findings by Metos and Nanney (2007), who found that schools particularly struggled with guidelines for competitive foods. So how might schools bridge this policy to implementation gap? Hoelscher and colleagues (2003) suggested that ongoing trainings

might have more positive impacts on implementation. In other words, administrators and other relevant school personnel might benefit from additional trainings regarding the development and implementation of stronger policies and more evidenced-based strategies, as well as how to successfully incorporate and balance the policies and initiatives with other demanding educational policies and mandates. Belansky and colleagues (2007) further urged more individuals and agencies, including university and community partners, public health agencies, state education departments, and funding agencies, assist schools in providing stronger interventions. They also suggested that greater monitoring and consequences for noncompliance with school wellness laws and directives may be necessary.

Although improving the implementation of wellness initiatives may be a daunting task that could require additional outside agency assistance and financial support, it is very important not only for improving the health and wellness of students, but also, according to the Trust for America's Health (2008), for long-term medical and governmental savings. The Trust for America's Health has estimated that an investment of only $10 per person per year into programs aimed at increasing physical activity, improving nutrition, and decreasing smoking could result in a savings in excess of $16 billion dollars annually after as little as five years, which amounts to a return of approximately $5.60 per dollar invested.

Beyond just investigating overall rates of knowledge, appropriateness, importance, social validity, and implementation of school wellness initiatives across schools and administrators throughout the nation, the current study also examined potential relationships between these important factors, as previous researchers have

asserted that they are interrelated (e.g., Leurs et al., 2007). Consistent with these assertions, Total Acceptability was found to be significantly related to Total Importance and Total Implementation was found to be significantly related to each of the three Social Validity scales: Total Appropriateness, Total Importance, and Total Social Validity. Two earlier studies found similar effects for food service staff and teachers regarding health and nutrition education. The first study, in 2003, found that food service staff was more accepting of changing their practices to better promote the USDA school nutrition guidelines following training and behavioral exercises regarding the importance and implementation of programs that provide and encourage students to eat more nutritious lunch choices. (Hoelscher, Mitchell, Dwyer, Elder, Clesi, & Snyder, 2003). A study published four years later demonstrated that those teachers who taught at least three health topics viewed teaching health education more positively (i.e., felt it would result in increased personal enjoyment and satisfaction and more school commitment towards improving student health) than those who taught two or fewer (Leurs et al., 2007). While the current study demonstrated this effect related to physical education initiatives, it did not replicate the results for the CDC strategies focused on health education and school meal programs. However, it did provide further support that valuing and understanding implementation procedures and benefits helps promote greater program acceptance.

Building Level

The second aim of the current study was to investigate potential differences in the implementation of the CDC's recommended strategies by building level. Examining implementation by building level was thought to be important for several reasons. First,

previous research, although prior to the obesity epidemic, has suggested that wellness promotion is particularly important at the younger levels, prior to the time that students reach eight years of age, because BMI range at age eight has been shown to be indicative of BMI range through the lifespan (Rolland-Cachera, Bellisle, & Sempe, 1988). Also, it seems that for many school initiatives (e.g., Response to Intervention), elementary level schools tend to initiate programs first. However, given that all school levels are held to the same standards under P.L. 108-265, it would not be unreasonable to expect similar implementation across levels. Results of the current study, in which the greatest proportion of participants (78.4%) reported being involved at the elementary level, demonstrated that building level differences might in fact exist. Although no building level differences emerged for Total Knowledge, Appropriateness, Importance, Social Validity, or Implementation, differences did emerge for two of the individual strategies at the high school level. High school administrators reported a significantly higher level of implementation for CDC Strategy 6 (implementing a high-quality course of study in health education), but a significantly lower level of implementation for Strategy 8 (increasing opportunities for students to engage in physical activity). It may be reasonable to attribute these differences to curriculum requirements and school day structure. Health education requirements, in general, may be different in high school than at other levels, which could account for the greater level of implementation. In regards to physical activity, in general, elementary and middle school-age students have physical education every week for 30 to 225 minutes for the duration of every school year, whereas high school students are typically only required to take one to two physical education classes over the course of their four high school years (National Association

for Sport and Physical Education, 2002). Further, elementary-age students tend to have scheduled recesses, in which they have greater opportunities to engage in physical activity than older students, who are generally not provided the same scheduled breaks. It is likely that these factors account for much of the implementation differences noted by high school level administrators.

Geographic Region

Only one notable difference in strategy implementation was noted between geographic regions. The West, compared to both the Midwest and Northeast, reported significantly less implementation of CDC Strategy 6 (implementing a high quality course of study in health education; $p = 002$). Interestingly, and encouragingly, even with their lower implementation of this strategy, the West does not include any of the states with the highest rates of childhood obesity and also includes two of the states, Utah and Oregon, with the most promising trends (Singh, Kogan, & vanDyck, 2010).

Free and Reduced Lunch (Socioeconomic Status)

Considering relationships between participation in the free and reduced lunch program and implementation of school wellness policies noted by Metos and Nanney (2007) and Young and colleagues (2007), the current study re-examined potential correlations between free and reduced lunch and implementation. Significant relationships emerged for CDC Strategies 3 (assessing health programs and policies and developing a plan for improvement) and 6 (implementing a high quality course of study in health education), but in the opposite direction noted by Metos and Nanney (2007). Administrators who reported lower rates of free and reduced lunch reported higher levels

of implementation. However, the 2007 study examined policies, while the current study examined implementation. It could be that schools with higher rates of free and reduced lunch do, in fact, have stronger health education policies, but that these policies are not translating into practice. In other words, the policies might be stellar, but the actual implementation poor, as described in the study by Young and colleagues (2007). The current results, in conjunction with those of Young and colleagues, suggest that schools with higher rates of free and reduced lunch, and therefore, presumably, students of lower socioeconomic status, may need greater support and financial assistance to ensure appropriate ongoing implementation of school wellness initiatives.

Access to Grant Funds

Grant funding was shown to largely impact schools' implementation of wellness initiatives. Administrators in the current study who reported having access to grant funds also reported significantly higher overall implementation, as well as significantly higher implementation levels for several of the individual CDC Strategies: 1 (addressing physical activity and nutrition through a coordinated school health program), 2 (maintaining an active school health council and designating a school health coordinator), 3 (assessing health policies and programs and developing a plan for improvement), 5 (implementing a high-quality health promotion program for school staff), and 6 (implementing a high-quality course of study in health education). This makes sense given the financial barriers reported by many of the current survey respondents. Schools continue to face budget challenges, so supplemental funding has clearly been helpful for many schools and may be one means of ensuring compliance with P.L. 108-265 and also

to ensure effective, ongoing wellness initiative implementation. Several funding sources are available and schools should be encouraged to explore and obtain these potential funds. The CDC, for example, has provided funding at the state level to assists schools with the implementation of health and wellness programs aimed at reducing the rates of poor nutrition, physical activity, and overweight and obesity in children, as well as at reducing the likelihood of chronic diseases later in life (Kolbe, Kann, & Brener, 2001). More recently, a federal initiative associated with the American Recovery and Reinvestment Act of 2009, coined the Investing in Innovation Fund, set the precedent for potential LEA and non-profit organization collaboration to facilitate the investment in and implementation of pioneering practices aimed at increasing student achievement and growth. This initiative provides the potential for grant funds that will allow eligible LEA or non-profit applicants to secure financial support to develop or expand initiatives that might serve as guides to best practices and to work collaboratively to benefit students (US Department of Education Office of Innovation and Improvement, 2011). Given the positive associations between wellness initiatives and academic achievement, this or similar initiatives might be one funding source worth exploring. Numerous local and state level grants may also be worthy options. Given that many internet sites provide up-to-date listings of many potential funding opportunities, schools may want to delegate someone, possibly their health coordinator, to routinely review and seek opportunities.

Barriers

When asked about barriers to implementation, those respondents who indicated no implementation of one or more of the strategies suggested that a culmination of

barriers, rather than any one particular behavior, may be responsible for policy to implementation gaps. Although time emerged as the most significant barrier when all ten strategies were considered together, all six of the listed barriers were endorsed by at least 11 respondents (just under 11%). The emergence of time as the most significant barrier was consistent with results of the Leurs and colleagues (2007) study, in which 80.4% of teachers reported 'limited time available in class' as a significant barrier to wellness promotion initiatives. There were notable differences in the barriers cited for each of the strategies, however, and some barriers appear to be much more problematic for some strategies than others. It is important to note, however, that the survey questions related to implementation barriers were not open-ended. Rather, respondents were given a list of six barriers cited by previous researchers, as well as an 'other' option where they could indicate anything additional. Providing a pre-determined list of barriers may have skewed the responses to some degree, as it is likely much easier to select a barrier for a particular shortcoming from a provided list than it is to derive one independently based on one's particular school setting and circumstances. Regardless, similar to findings by Hallfors and Godette (2002), Leurs, Bessems, Schaalma, and Vries (2007), and Story and colleagues (2009), limited instructional time due to stringent curricular standards, lack of financial support or materials, lack of trained personnel, and limited buy-in continue to pose barriers to wellness promotion and program implementation.

School Personnel

In general, information provided by current survey participants suggested that school wellness might be primarily a general education initiative, and that, primarily,

school nurses, physical education teachers, principals, cafeteria personnel, and general education teachers participate. Less than 25% of respondents indicated that their special educators are involved and only a handful indicated that their related service providers (i.e., school psychologist, physical therapist, and occupational therapist) are involved. The limited roles cited by school psychologists were of particular interest, given the recent push by Blom-Hoffman and DuPaul (2003) and Fedewa and Clark (2010) for school psychologists to take an active role in both the promotion and implementation of school wellness initiatives. It appears that greater advocacy, information dissemination, direction, and training may be necessary to increase the involvement of school psychologists in school wellness initiatives.

Limitations

A few notable limitations emerged during the current study. First, the difficulties securing participants and, hence, the poor response rate was particularly problematic. Although over 13,000 potential participants were contacted, only 103 consented and completed the survey, resulting in a response rate of less than 1%. Several factors likely contributed to this. First, school administrators are very busy people; asking them to provide 20 minutes of their time to complete a survey that had no direct impact on their school may have been too lofty of a request. One participant actually contacted the primary researcher directly, prior to completing the survey, asking if the survey would truly require that much time. Second, the timing of the survey may have had some impact. The initial contacts to state organizations occurred just prior to the holiday season, likely near the end of many administrators' school semester. Third, given the

somewhat better response rate to the second contact method, in which administrators were emailed directly and more personalized requests were made, it is quite possible that the response to the first set of contacts was negatively impacted by the less direct methodology. State organizations typically do not release their members' email addresses; hence, emails either had to be sent through organization leaders, who then had to agree to forward on the messages to their listservs, or requests had to be published in organizations' newsletters. For this reason, the messages had to be very generic and may have been less inviting.

The psychometric properties of the Knowledge section were another notable limitation of the current study. Whereas internal consistencies of .8 or above are typically considered most acceptable, the internal consistency of the Total Knowledge scale was just above .4. With an internal consistency of only .4, t is difficult to argue that the items on the Knowledge scale measured a single construct. Creating a scale to measure school wellness knowledge was particularly difficult for several reasons. To date, no other study had attempted to measure Knowledge through an assessment scale or survey; therefore, no model or comparison was available. Determining what types of questions to ask was also difficult; for example, should questions address general wellness concepts in addition to school wellness specific domains? Should questions be asked about current directives? Additional research is needed to better adapt the scale to provide more reliable information regarding pertinent wellness knowledge.

The increased chance of Type 1 statistical error due to the number of tests run was also problematic. Multiple testing problems (i.e., the increased potential for error associated with repeated statistical tests) may have contributed to false positives, or the

obtaining of significant findings that may actually have been attributable to chance (Larzelere & Mulaik, 1977). Because of the array of research questions examined within a single sample of school administrators, this increased risk of error was difficult to accommodate for, as there is no correction procedure available for multiple correlation analyses. Hence, further studies designed to examine each of the current research questions more specifically and thoroughly are needed to support the current findings.

Conclusions

Although, on average, responding administrators indicated that they were relatively knowledgeable about general health and wellness and school wellness promotion policies, initiative, and implementation, and also that they believed that the CDC's school wellness promotion strategies were important and appropriate, a notable acceptance to implementation gap emerged. There are several likely explanations for this phenomenon. First, the CDC strategies make logical sense, especially given the well-established and widely discussed need for healthier lifestyle choices. People may be well-aware that the rates of overweight and obesity are reaching unprecedented heights and that the long-term consequences can be devastating, and for those reasons might be well in favor of school wellness initiatives aimed at remedying the trend, yet unsure of how to make them a reality in their school(s). Or, on the other hand, maybe given the perceived necessity, sensibility, or responsibility, participants' ratings of importance and appropriateness were impacted by social desirability. Second, the strategies are supported by law, specifically P.L. 108-265, and school administrators likely have had at least some exposure and training, as they are responsible for ensuring that policies are in place in

their school. Leurs and colleagues (2007) demonstrated that this increased knowledge and exposure may be associated with greater acceptance. Third, in compliance with P.L. 108-265 and possibly in agreement with their personal preferences or district-supported school improvement goals, it is likely they might have positive and appropriate school wellness policies in place at their school, as supported by earlier studies (e.g., Belansky et al., 2007), but they are not implementing these policies fully. As suggested in earlier studies (e.g., Belansky et al., 2010), it appears that school administrators and personnel may require additional guidance, support, and ongoing monitoring to ensure compliance with P.L. 108-265 and, above and beyond that, to ensure effective implementation of the policies and initiatives, as outlined by the CDC, USDA, and WHO. To assist schools in appropriate implementation, information provided by respondents suggests that schools may need assistance in overcoming curriculum, training, financial, and time barriers. Grant funding appears to be one potential avenue, as a significant relationship emerged between access to grant funds and implementation of the CDC's strategies in the current study. Because so many local, state, and federal grants are available, the answer may not be to increase the number and amounts of available grants, although they would likely help, but rather to increase advertising and information dissemination about the grants currently available and to encourage and assist schools in applying for them. Another potential avenue, suggested by previous researchers, might be to increase the wellness-promoting roles of school psychologists, who, according to information provided by current survey respondents, are not presently very involved. School psychologists are uniquely trained in designing, implementing, monitoring, and evaluating interventions that key stakeholders will view as sensible, practical, and effectual and will likely

implement with integrity (Blom-Hoffman & DuPaul, 2003; Fedewa & Clark; 2010; Gutkin & Curtis, 1999). Additionally, school psychologists may be helpful in integrating wellness promotion initiatives into pre-existing and demanding curricula, which might help to reduce barriers shared by respondents in the current study and also help with long-term sustainability and, hopefully, long-term positive health and wellness outcomes for students (Fedewa & Clark, 2010).

Future Research

The policy to implementation gaps noted in the current study and supported by previous studies (e.g., Belansky et al., 2010) suggests a clear need for ongoing research and support for school administrators. Particular areas that may be especially helpful to continue to explore include the delegation, utilization, and involvement of school personnel in wellness initiatives, potential means of overcoming pertinent barriers to implementation (e.g., limited instructional time due to stringent reading, math, and other curricular standards, lack of financial support or necessary materials, lack of appropriately trained personnel, and limited buy-in continue), possible geographic differences in school wellness initiative implementation, additional or unique avenues to supplemental funding or outside agency support, and, especially considering the inconsistencies in current and previous findings, relationships between school wellness policies, implementation, and schools' percentages of students eligible for free/reduced lunch.

APPENDICES

APPENDIX A

INVITATION EMAILS FOR STATE ORGANIZATIONS

Dear School Administrators,

The need for and mandates regarding School Wellness Promotion have increased substantially over recent years, but limited research is available to school administrators to assist with developing and implementing school-wide wellness policies and there is limited understanding regarding school administrators perceptions of the feasibility and effectiveness of these initiatives in their schools. In a few days, you will receive an email containing a link to a survey intended to gather your experiences with and insights regarding school wellness promotion. Your participation is voluntary, but would be greatly appreciated and may help to create a better national picture of current wellness-promoting practices and lay the groundwork for future school wellness trends and support.

APPENDIX B

INVITATION EMAILS FOR INDIVIDUAL DISTRICTS

Dear [insert superintendent and principal names],

The need for and mandates regarding School Wellness Promotion have increased substantially over recent years, but limited research is available to school administrators to assist with developing and implementing school-wide wellness policies and there is limited understanding regarding school administrators perceptions of the feasibility and effectiveness of these initiatives in their schools. In a few days, you will receive an email containing a link to a survey intended to gather your experiences with and insights regarding school wellness promotion. *We would like to include input from all of you at the [insert school district]*. Your participation is voluntary, but would be greatly appreciated and may help to create a better national picture of current wellness-promoting practices and lay the groundwork for future school wellness trends and support. *To show our appreciation, all participants who complete the survey will be entered into a drawing for a $25 Amazon Gift Card.*

APPENDIX C

SURVEY EMAIL FOR STATE ORGANIZATIONS

Dear School Administrators,

The need for and mandates regarding School Wellness Promotion have increased substantially over recent years, but limited research is available to school administrators to assist with developing and implementing school-wide wellness policies and there is limited understanding regarding school administrators perceptions of the feasibility and effectiveness of these initiatives in their schools. A few days ago, you received an email invitation to participate in an upcoming survey intended to gather your experiences with and insights regarding school wellness promotion. The link below will direct you to the survey. Your participation is voluntary, but would be greatly appreciated and may help to create a better national picture of current wellness-promoting practices and lay the groundwork for future school wellness trends and support. *To show our appreciation, all participants who complete the survey will be entered into a drawing for a $25 Amazon Gift Card.*

Sincerely,

Kristi Hainstock
School Psychology Doctoral Student
Central Michigan University

APPENDIX D

SURVEY EMAIL FOR INDIVIDUAL DISTRICTS

Dear Administrators,

A few days ago, you, the other principals you work with in your district, and your superintendent were invited to participate in a dissertation survey intended to gather your experiences with and insights regarding school wellness promotion. The need for and mandates regarding School Wellness Promotion have increased substantially over recent years, but there has been limited research in the area and an even more limited understanding of school administrators perceptions of the feasibility and effectiveness of these initiatives in their schools. Your participation in the survey is voluntary, but would be greatly appreciated and may help to create a better national picture of current wellness-promoting practices. The survey can be accessed at http://www.surveymonkey.com/s/7VFBRLR. All participants who complete the survey will be entered into a drawing for a $25 Amazon Gift Card. If you have any questions or concerns about the survey or the research, please do not hesitate to contact us.

Sincerely,
Kristi Hainstock
School Psychology Doctoral Student
Central Michigan University

APPENDIX E

CONSENT AND SURVEY

I. Introduction

a. A SURVEY OF SCHOOL ADMINISTRATOR'S ACCEPTANCE OF SCHOOL WELLNESS INITIATIVES

Kristi Hainstock (knop1kl@cmich.edu)
Sandra Morgan, PhD (morga1sk@cmich.edu)
CMU School Psychology

We would like to invite you to complete a survey about school wellness interventions. The survey will help us to better understand school administrators' current knowledge, acceptance, and implementation of these initiatives. The survey should take no more than 15-20 minutes, the primary researcher can be contacted with any questions, and you can withdraw at any time.

What is the purpose of this study?
The survey will be the first comprehensive, national survey of school administrator's understanding, acceptance, and likelihood of implementing wellness interventions. It will also examine barriers to implementation and help to initiate a partnership between school psychologists and school administrators in the area of school wellness promotion.

What will I do in this study?
You will complete a 20-30 minute internet survey and earn the chance to win a $25 Amazon.com gift certificate.

How long will it take me to do this?
No more than 20-30 minutes.

Are there any risks of participating in the study? Participation is entirely voluntary and poses minimal risk to participants. The only identifying information that will be collected is email addresses and, following the completion of the study, all raw data and associated email addresses will be destroyed.

What are the benefits of participating in the study? Establishing a baseline understanding of school administrators' current knowledge and applications of school wellness initiatives will assist local education agencies in moving their schools forward in the federally-mandated and recommended areas of school wellness promotion.

Will anyone know what I do or say in this study?
During the completion of the study, only your email address will be associated with your survey response. Immediately upon completion of the survey window and prize drawing, the primary researcher will remove all raw data from the website and will remove all email addresses. No individual or personally-identifiable responses will be accessible by anyone besides the researchers.

Will I receive any compensation for participation?
All survey participants will be entered in a drawing to win a $25.00 Amazon.com Gift Certificate.

Is there a different way for me to receive this compensation or the benefits of this study?
If you would prefer a paper-copy of this survey, you may contact the primary researcher at knop1kl@cmich.edu. Participants who complete a paper-copy will also be entered in the prize drawing.

Who can I contact for information about this study?
The primary researcher, Kristi Hainstock, can be contacted anytime via email at knop1kl@cmich.edu.

You are free to refuse to participate in this research project or to withdraw your consent and discontinue participation in the survey at any time without penalty or loss of benefits to which you are otherwise entitled. Your participation will not affect your relationship with the institution(s) involved in this research project.

If you are not satisfied with the manner in which this study is being conducted, you may report (anonymously if you so choose) any complaints to the Institutional Review Board by calling 989-774-6777, or addressing a letter to the Institutional Review Board, 251 Foust Hall Central Michigan University, Mt. Pleasant, MI 48859.

By clicking "next," you are voluntarily consenting to participate.

II. Knowledge
   a. Please indicate whether you believe the following statements are true or false:
      i. The World Health Organization introduced a framework for the implementation of school health programs over a decade ago.
      ii. It has been suggested that parents, students, school food authorities, school board members, school administrators, school psychologists, and the public should all be involved in the creation, adoption, and implementation of a school wellness promotion policy.

iii. School health and physical activity promotion directives have been supported at local, state, national, and global levels.
iv. Students who receive more hours of organized physical education have been shown to score higher on standardized tests.
v. Most school's written health and physical education policies meet the requirements of the law.
vi. Incorporating health education, physical education, and opportunities for physical activity within the school environment has demonstrated positive benefits on academic achievement, school behavior and performance, self-esteem, and nutrition knowledge and behavior.
vii. Local education agencies and individual schools have no control over the development and implementation of school health and physical education/activity policies and programs.
viii. By age 8 years, most children are in the Body Mass Index percentile range they will continue to be in for the remainder of their life.
ix. The World Health Organization defines a "health-promoting school" as one that supports triumph in academics, vocation, and life in general.
x. Currently, State Education Departments are charged with developing and monitoring school health and physical activity policies.
xi. Time spent in physical education classes harms academic achievement.
xii. There are federal monetary incentives associated with promoting healthier school environments through nutrition and physical activity policies and initiatives.
xiii. Studies have demonstrated that school districts with the highest rates of students eligible for free and reduced lunch have demonstrated the weakest wellness policies.
xiv. The materials/programs currently available to assist schools in developing and evaluating health and fitness policies and practices are costly.
xv. Teachers' knowledge and perceptions about the importance and acceptability of health promotion is unrelated to their likelihood of teaching health issues in their classrooms.
xvi. There are no local, state, or federal grants that support school health promotion initiatives.
xvii. By federal law, all schools who participate in the National Lunch Program must have written wellness policies in place.
xviii. To date, public health agencies, rather than schools themselves, have driven school health promotion initiatives.
xix. Today, most states require routine Body Mass Index screenings in schools.
xx. The U.S. Center for Disease Control has recommended that schools increase and improve the availability of healthier food and beverage choices, increase the amount of physical education, increase opportunities for extracurricular physical activity, and improve access to outdoor recreation facilities.

xxi. School wellness programs have been deemed the most influential means of addressing the obesity epidemic.
xxii. School health promotion is a world-wide initiative.
xxiii. The Institute of Medicine has suggested that BMI measurements be administered as part of routine school screenings.
xxiv. In general, federal school health and physical education policies have become increasingly stringent over the past decade.
xxv. No federal guidance has been given to schools regarding how to develop and implement school wellness policies.

III. Acceptability, Importance, and Implementation
   a. CDC Strategy 1: The CDC has asserted that schools should address physical activity and nutrition through a coordinated school health program.
      CONSIDERING YOUR SCHOOL'S SITUATION,
         i. Is this an appropriate standard?
            1. Not at All
            2. Somewhat
            3. Mostly
            4. Completely
         ii. Is this an important standard?
            1. Not at All
            2. Somewhat
            3. Mostly
            4. Completely
         iii. Is this being implemented in your school(s)?
            1. Not at All
            2. Somewhat
            3. Mostly
            4. Completely
   b. CDC Strategy 2: The CDC has asserted that schools should maintain an active school health council and designate a school health coordinator.
      CONSIDERING YOUR SCHOOL'S SITUATION,
         i. Is this an appropriate standard?
            1. Not at All
            2. Somewhat
            3. Mostly
            4. Completely
         ii. Is this an important standard?
            1. Not at All
            2. Somewhat
            3. Mostly
            4. Completely
         iii. Is this being implemented in your school(s)?
            1. Not at All
            2. Somewhat

3. Mostly
4. Completely

c. CDC Strategy 3: The CDC has asserted that schools should assess their health policies and programs and develop a plan for improvement. CONSIDERING YOUR SCHOOL'S SITUATION,
    i. Is this an appropriate standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    ii. Is this an important standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    iii. Is this being implemented in your school(s)?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
d. CDC Strategy 4: The CDC has asserted that schools should strengthen their nutrition and physical activity policies. CONSIDERING YOUR SCHOOL'S SITUATION,
    i. Is this an appropriate standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    ii. Is this an important standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    iii. Is this being implemented in your school(s)?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
e. CDC Strategy 5: The CDC has asserted that schools should implement a high-quality health promotion program for the school’s staff. CONSIDERING YOUR SCHOOL'S SITUATION,
    i. Is this an appropriate standard?
        1. Not at All
        2. Somewhat
        3. Mostly

4. Completely

ii. Is this an important standard?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

iii. Is this being implemented in your school(s)?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

f. CDC Strategy 6: The CDC has asserted that schools should implement a high-quality course of study in health education. CONSIDERING YOUR SCHOOL'S SITUATION,

i. Is this an appropriate standard?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

ii. Is this an important standard?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

iii. Is this being implemented in your school(s)?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

g. CDC Strategy 7: The CDC has asserted that schools should implement a high-quality course of study in physical education. CONSIDERING YOUR SCHOOL'S SITUATION,

i. Is this an appropriate standard?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

ii. Is this an important standard?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

iii. Is this being implemented in your school(s)?
    1. Not at All
    2. Somewhat

3. Mostly
4. Completely

h. CDC Strategy 8: The CDC has asserted that schools should increase opportunities for students to engage in physical activity. CONSIDERING YOUR SCHOOL'S SITUATION,
    i. Is this an appropriate standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    ii. Is this an important standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    iii. Is this being implemented in your school(s)?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
i. CDC Strategy 9: The CDC has asserted that schools should implement a quality school meals program. CONSIDERING YOUR SCHOOL'S SITUATION,
    i. Is this an appropriate standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    ii. Is this an important standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
    iii. Is this being implemented in your school(s)?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely
j. CDC Strategy 10: The CDC has asserted that schools should ensure that students have appealing, healthy choices in foods and beverages offered outside the school meals program. CONSIDERING YOUR SCHOOL'S SITUATION,
    i. Is this an appropriate standard?
        1. Not at All
        2. Somewhat
        3. Mostly
        4. Completely

ii. Is this an important standard?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely
iii. Is this being implemented in your school(s)?
    1. Not at All
    2. Somewhat
    3. Mostly
    4. Completely

IV. Barriers (Asked only when a respondent indicated "Not at All" when asked about implementation of a CDC strategy)
  a. You indicated that you are not implementing [insert CDC strategy]. Please indicate the barriers you have experienced or foresee experiencing (select all that apply).
    i. Acceptability/Buy-In
    ii. Time
    iii. Cost of Materials
    iv. Lack of Adequately Trained Personnel
    v. Curriculum Requirements
    vi. Standardized Testing Standards
    vii. Other (please specify: _____)

V. Demographics
  a. What role do you serve in your schools?
    i. Superintendent
    ii. Principal
    iii. Other (please specify: _____)
  b. How many years have you served as a school administrator?
    i. 0 to 5 years
    ii. 6 to 10 years
    iii. 11 to 15 years
    iv. 16 to 20 years
    v. 21+ years
  c. How many students are enrolled in your school district (including schools you may not serve)?
    i. 0-500
    ii. 509-1000
    iii. 1001-1500
    iv. 1501-2000
    v. 2000+
  d. How many schools do you serve?
    i. 0-2
    ii. 3-5

iii. 6-8
iv. 9-11
v. 12 or more

e. On average, how many students are enrolled in each of your schools?
   i. 0-100
   ii. 101-200
   iii. 201-300
   iv. 301-400
   v. 401+

f. What are the age ranges of your students (select all that are applicable)?
   i. Pre-Primary
   ii. Elementary School
   iii. Middle/Junior High School
   iv. High School and Beyond

g. On average, what percentage of the students you serve are eligible for free or reduced lunch?
   i. 0-19%
   ii. 20-39%
   iii. 40-59%
   iv. 60-79%
   v. 80% or more

h. In which U.S. census region do you work?
   i. West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming)
   ii. Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin)
   iii. Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont)
   iv. South (Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia)

i. How long would you estimate that your school/s have had wellness promotion initiatives in place?
   i. 0-3 years
   ii. 4-6 years
   iii. 7-9 years
   iv. 10+ years

j. To your knowledge, which personnel in your school are involved in school wellness promotion policy development and/or implementation?
   i. General Education Teachers
   ii. Kitchen Staff
   iii. Occupational Therapist
   iv. Physical Education Teacher
   v. Physical Therapist
   vi. School Nurse

vii. School Principal
viii. School Psychologist
ix. Special Education Teachers
x. Other (please specify: _____)

k. To your knowledge, has/have your school/s applied for or received any grants to aid with school wellness promotion initiatives?
    i. No
    ii. Yes (please list: _____)

VI. Thank you!
a. Thank you for your time and input!
b. If you would like to be entered in a drawing to win a $25 Amazon Gift Card, please provide us with your email address _____.

APPENDIX F
THANK-YOU AND FOLLOW-UP EMAILS FOR STATE ORGANIZATIONS

Dear School Administrators,

We recently contacted you regarding participation in a survey designed to gather school administrators' experiences with and insights regarding school wellness promotion. We sincerely appreciate the responses we have received. Your input is very important to us. If you have not yet had the opportunity to respond, we would still like to hear from you. A survey link is provided below. Your participation is voluntary, but would be greatly appreciated and may help to create a better national picture of current wellness-promoting practices and lay the groundwork for future school wellness trends and support.

Sincerely,

Kristi Hainstock
School Psychology Doctoral Student
Central Michigan University

APPENDIX G

THANK-YOU AND FOLLOW-UP EMAILS FOR INDIVIDUAL DISTRICTS

Dear Administrators,

We would like to extend a sincere thank you to everyone who has participated in our survey designed to gather school administrators' experiences with and insights regarding school wellness promotion. Your input is very important to us. *If you have not yet had the opportunity to respond, we would like to offer you one last opportunity*. The survey can be accessed at http://www.surveymonkey.com/s/7VFBRLR. Your participation is voluntary, but would be greatly appreciated and may help to create a better national picture of current wellness-promoting practices and lay the groundwork for future school wellness trends and support. **Remember, all participants will have the opportunity of winning a $25 Amazon Gift Card.**

Sincerely,

Kristi Hainstock
School Psychology Doctoral Student
Central Michigan University

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