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DEVELOPING A SURVEY TO MEASURE SCHOOL WELLNESS POLICY ENGAGEMENT
AMONG SCHOOL ADMINISTRATORS, SCHOOL STAFF AND PARENTS

By

Tara J Pratt

A thesis submitted in partial fulfillment of the requirements for the

Master of Science

Major in Nutrition, Exercise and Food Science

Specialization in Exercise Science

South Dakota State University

2014

DEVELOPING A SURVEY TO MEASURE SCHOOL WELLNESS POLICY ENGAGEMENT
AMONG SCHOOL ADMINISTRATORS, SCHOOL STAFF AND PARENTS

This thesis is approved as a creditable and independent investigation by a candidate for the Master of Science and is acceptable for meeting the thesis requirements for this degree. Acceptance of this does not imply that the conclusions reached by the candidates are necessarily the conclusions of the major department.

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ABSTRACT

DEVELOPING A SURVEY TO MEASURE SCHOOL WELLNESS POLICY ENGAGEMENT
AMONG SCHOOL ADMINISTRATORS, SCHOOL STAFF AND PARENTS

TARA PRATT

2014

Introduction: As a means to combat the childhood obesity epidemic, Congress enacted the Child Nutrition and WIC Reauthorization Act of 2004. This act required all school districts participating in the Healthy School Lunch or Breakfast Program to create and implement a school wellness policy. In 2010 the Healthy, Hunger-Free Kids Act required additional components be added to school wellness policies, such as public notification of wellness policy initiatives. There is currently not a survey tool available that measures these new mandate requirements among school administrators, school staff and parents in school wellness policies. **Goal:** The goal of this research study is to create a valid and reliable survey that can be used to assess engagement in school wellness policies among school administrators, school staff and parents. **Methods:** A 41-item online survey was created using the Dillman Method. Nine cognitive interviews with school administrators, teachers and parents were conducted prior to survey distribution for item refinement. There were 1819 survey respondents (45 school administrators, 770 school staff, 901 parents) from the 17 participating school districts. A subsample of 472 survey respondents (7 school administrators, 189 school staff, 276 parents) completed the survey a second time. Factor analysis was performed to measure construct validity of the 41-item survey and the survey was reduced. A

subsequent factor analysis was conducted on the reduced 14-item survey. Test-retest reliability was evaluated using Pearson Product Moment correlations and a Cronbach alpha coefficient was run to assess internal consistency. **Results:** The survey was reduced in length to the items that loaded at values ≥ 0.4 level and loaded consistently within the same factor. Twelve out of the 14 items loaded well among all groups for scoring. Test-retest reliability resulted in good reliability for the total score among all groups ($r=0.802$, $r=0.755$, $r=0.816$). Cronbach's alpha displayed acceptable internal consistency among all groups ($r=0.810$, $r=0.792$, $r=0.776$). **Discussion:** Additional modifications on question and scoring format, and the use of a more detailed evaluation model are needed to improve the reliability, validity, and feasibility of use of the School Wellness Policy Engagement Survey.

REVIEW OF LITERATURE

CHILDHOOD OBESITY EPIDEMIC

Rates of childhood overweight and obesity tripled from 1988 to 2000.¹ Within the last 10 years, the prevalence of overweight and obesity among children has stabilized, but still remains high.^{1,2} Approximately 34% of children aged six to 19 are overweight or obese. Obese children are more likely to suffer from comorbidities such as sleep apnea, type II diabetes, hypertension, liver disease and orthopedic difficulties.³ These comorbidities can negatively impact a child's quality of life.³ The United States is suffering economically due to the health costs associated with obesity.⁴ The direct costs of childhood obesity alone are estimated to exceed 14.3 billion dollars annually and the estimated health costs of obesity-related illness are 147 billion dollars annually.⁴ Roughly one-third of obese preschool children and roughly half of obese school-aged children will become obese adults.⁵ Therefore, obesity related expenses are expected to increase even more.⁶

The obesity rates within South Dakota mirror the national trends. During the 2009-2010 academic year 16% of South Dakota students aged five to 19 years were obese and 16.7% were considered overweight for a combined total of 32.7% obese or overweight children.⁷

SCHOOL WELLNESS POLICIES

To address the childhood overweight and obesity problem, the United States Congress developed the Child Nutrition and WIC Reauthorization Act in 2004.⁸ This act requires every school district in the United States participating in the federally funded National School Lunch or Breakfast Program (NSLP) to create and implement a school wellness policy.^{8,9} Each school's wellness policy is required to address the following six components: physical activity and nutrition education, nutrition standards, United States Department of Agriculture (USDA) nutritional guidelines, measurement of policy implementation, policy management, and involvement in policy development. The first component addresses physical activity and nutrition education available for all students. School wellness policy requires schools to implement nutrition education through course work, such as a stand-alone class or could be incorporated into other core curriculum classes.⁹ The school wellness policy also encourages students in kindergarten through 12th grade to participate in daily physical education courses in which at least half of the class time is spent in moderate-to-vigorous activity.^{8,9} Additionally, cross-curriculum physical activity participation is encouraged in other classes like math, science and language arts.⁹ The second component addresses nutritional guidelines of foods accessible to children during school hours to promote healthy eating behaviors.¹⁰ The third component addresses the need of food served as a part of the NSLP to follow USDA specified guidelines.¹⁰ NSLP meals are required to meet a standard of at least one-third of the recommended nutrients for children. In addition, meals must stay within the school's allotted budget and be appealing to the students.^{11,12} The fourth component

addresses the creation of a specified plan for implementation and continued evaluation of the school wellness policy. The fifth component addresses the need for a school employee or committee to manage the implementation and evaluation of the wellness policy. Lastly, the sixth component states that school administrators, teachers, food service staff, students, parents and community members be involved in wellness policy development.¹⁰

In 2010 the Healthy, Hunger-Free Kids Act (HHFKA) was passed which added additional requirements regarding school wellness policies.¹³ The new requirements set guidelines designating that school health professionals, school food authority personnel, school board members, school administrators, students and parents, are to be represented on the school wellness committee and should assist with school wellness policy development.¹⁴ The HHFKA placed a greater emphasis on the continuous implementation and assessment of the school wellness policy by requiring wellness policy committees to periodically inform and update the public (including parents, students and community members) about wellness policy content and implementation.¹³ The wellness policy information provided to the public should include the extent to which the school district is in compliance with their policy, the extent to which the school's policy is compared to a model wellness policy, and lastly, the quantity of progress that has been made towards the goals of the policy.¹³ School districts are now required to designate one or more individuals to ensure that the school wellness policy is compliant with the mandates. Lastly, the HHFKA requires that the assessment be made available to the public by making the information available on

the school or district website, or by distributing the information through printed material.¹³

BENEFITS OF SCHOOL WELLNESS POLICIES

A wellness policy can help establish a healthier school environment that emphasizes physical activity and nutrition education for each child attending the school.⁹ Children spend a large proportion of their waking hours at school.^{15,16} With 49.5 million children in the education system across the United States,¹⁷ schools are a prime setting to expose children to a healthy environment.¹⁸ The primary goal of a school wellness policy is to create a healthy school environment that can evoke positive health behavior change for all individuals.¹⁹

Wellness policy implementation has been associated with direct physical activity and nutritional benefits.¹⁹ When school wellness policies properly address and implement physical activity participation and nutrition, increased physical education participation among students and healthier food options within school districts occur.²⁰ After wellness policy adoption and implementation the number of schools who served whole grains and low-fat milk versus unhealthier options increased.²¹ Overall, physical activity and nutrition curriculum results in well-nourished and physically active children who are more likely to participate in class, excel in academics, and positively impact the school district as a whole.⁷ However, schools face many barriers to create strong wellness policies that meet national regulations, implementing their written policies,

and evaluating the impact of their policy on the health and wellness of their students.^{23,24}

It is estimated that 32% of school districts fail to have a school wellness policy that meets the minimal written requirements set forth in the Children Nutrition and Women, Infants, and Children (WIC) Reauthorization Act.²⁵ During the 2008-09 school year the average written policy only scored 48 out of 100 points possible, when assessed for comprehensiveness of policy components addressed.²⁶ The average written strength score was even more alarming with scoring only 28 out of 100 points, when assessed for strength of wording of policy components.²⁶ Weak written policies are less likely to be implemented in school districts than policies that are strong and comprehensive.²⁷ Thus it has been suggested that school wellness policies are more likely to be effective when schools write strong and comprehensive policies because they are more likely to be properly implemented and evaluated.²⁷ Unfortunately, large proportions of school districts across the country are not seeing improvements in implementation.²⁷ Approximately 90% of school board members have reported that their school districts would be unlikely to effectively implement and evaluate their written wellness policies, as required.²⁸ Schools districts face a multitude of barriers to writing, implementing and evaluating their policies.²⁷ Schools are in need of assistance with best-practice implementation procedures of school wellness policies.²⁹⁻³¹

BARRIERS OF SCHOOL WELLNESS POLICIES

Many barriers exist with school wellness policy implementation.^{30,32} Agron and colleagues administered a phone survey and held focus groups with a nationally representative sample of school board members, government service directors, state public nutrition directors and non-profit organization team members to evaluate perceived barriers related to wellness policy implementation.³⁰ Common barriers cited by subjects were inadequate funding, competing priorities/lack of time, and a need for wellness policy support.³⁰ In addition, a study conducted by Sánchez and colleagues analyzed barriers to wellness policy implementation and found lack of knowledge of policy content and lack of understanding of who is responsible for facilitating wellness policy implementation.³² The barriers to wellness policy implementation in South Dakota are consistent with those identified at a national level. Unpublished data from our laboratory suggested that administrators in South Dakota lack time to coordinate wellness policy initiatives, lack funding, and have insufficient time outside of academic requirements to promote health goals. Financial support and leadership of an individual to champion wellness policy implementation are clearly needed for schools to combat potential barriers.^{23,30,32,33}

CHAMPIONS OF SCHOOL WELLNESS POLICIES

A school district wellness champion is an individual who is knowledgeable about the school wellness policy, takes the time to oversee implementation of the school wellness policy, and willingly leads the wellness policy committee to address school

wellness policy barriers.^{21,32} A study conducted by O'Brien and Polascek found that school districts that have the support of a wellness champion, tend to have healthier school environments than schools who do not have the support of a champion.²¹ For example, schools with a wellness champion were much more likely to offer intramural sports programs supportive of physical activity to students when compared to schools without a wellness champion.²¹ Additionally, schools with a wellness champion were less likely to sell unhealthy foods before school in vending machines, and have more fruits and vegetables available on the school campus than schools without a champion available.²¹ Schools with a wellness champion have been shown to have lower rates of soda consumption, tobacco use, and inactivity.²¹

O'Brien and Polascek suggested that if a school district has the funds and resources available to them to employ a wellness champion within the school staff it would be advantageous to all aspects of wellness policy implementation.²¹ When a wellness policy champion is available to the school district, the policy is more of an "active" document because a school wellness champion can regularly remind school staff about wellness policy initiatives.²³ Collectively, school wellness champions are an effective means of addressing wellness policy awareness and implementation barriers.^{21,32}

AWARENESS OF AND INVOLVEMENT IN SCHOOL WELLNESS POLICIES

In 2010 congress enacted additional requirements to the Child Nutrition and Women, Infant and Children Reauthorization Act for school wellness policies. Section

204 of the USDA's HHFKA of 2010 authorizes that the public, teachers, parents, students, foodservice staff, school administrators and the school board be involved in school wellness policy development.¹⁴ This portion of the requirement is to ensure a collaborative transdisciplinary health council that is representative of the school community. The role of the council is to create and/or update the school wellness policy, implement the policy and evaluate the policy. In addition, the HHFKA requires that school districts must disseminate the school wellness policy to the public.¹⁴ This portion of the requirements ensures that the public is aware of school wellness efforts and to gain community support for the development and implementation of effective wellness policies.

Awareness of school wellness policies, not only improves transparency of school wellness efforts, but also has been related to wellness policy implementation. A study conducted by Lanier and colleagues surveyed Utah elementary school teachers to assess physical activity and food policy awareness and evaluate if awareness affected policy implementation.³⁴ Results showed that only a fraction (26%) of elementary school teachers were aware of their school food and physical activity policies.³⁴ Factors that were associated with policy awareness were: knowing the location of the policy, being reminded at least once a semester of the wellness policy, and knowing the identity of the wellness policy champion.³⁴ In addition, teachers who viewed the childhood obesity epidemic as a concern were more likely to place emphasis on health related policies to prevent obesity in youth.³⁴ There was a positive relationship between the level of awareness of school wellness policies and the degree of policy implementation.³⁴ This

suggests that if teachers are more aware of the school wellness policy the policy is more likely to be implemented and thus, the policy is more likely to have an impact on the health of the student population.

In 2001, the state of Texas passed Senate Bill 19, which mandated public elementary schools to increase health education, physical activity time, and a coordinated school health program during school.³⁵ Kelder and colleagues assessed the awareness of and adherence to the Senate Bill 19 within the Texas elementary schools by conducting key informant interviews over the telephone with 169 principals or principal designees during the 2005-2006 school year.³⁵ The results revealed there was a high level of overall awareness of mandate contents among informants with around 96% being aware of requirements. The authors also found that a high level of awareness was associated with a high level of compliance with the physical activity mandate with elementary school students obtaining the recommended amount of physical activity throughout their school day.³⁵ These results support the idea that increased policy awareness is related to policy compliance.

Chaloupka and colleagues evaluated online availability of 641 school district's school wellness policies. Of the sample, over half of the school district's school wellness policies were not available online. The authors suggested that the availability of a school wellness policy online can improve public access. Increased online access has the potential to improve awareness of the school wellness policy among school staff, parents and community members.³⁶

AWARENESS AND THE HEALTH BELIEF MODEL

The Health Belief Model supports the argument that an increase in awareness will result in a desired health behavior change. The Health Belief Model is a theory consisting of both psychological and behavioral components in which an individual has a desire to avoid illness and also the belief that health based actions can prevent or reduce risk of illness.³⁷ The Health Belief Model contains three assumptions: 1) an individual feels there is a negative health condition 2) an individual has a positive expectation that by taking a recommended action, they will avoid a negative health condition and 3) an individual believes they that can confidently practice the recommended health action.³⁷ The Health Belief Model's assumptions can be applied to wellness policy awareness within schools: 1) school administrators, school staff and parents are aware of the negative health risks associated with the childhood obesity 2) school administrators, school staff and parents see evidence of how wellness policies can be a successful means of improving the health of the school environment. 3) school administrators, school staff and parents confidently believe and support wellness policy implementation. Therefore, it is plausible to suggest that if school administrators, school staff and parents are more aware of the childhood obesity epidemic and the school wellness policy this may lead to increased involvement of school wellness policy creation and implementation.

SUMMARY

In summary, school wellness policies have been shown to: 1) increase the integration of nutrition education in the classroom for all grades^{22,33} 2) offer more healthful school lunches²² 3) offer school gardens or farm-to-school programs²² 4) increase the amount of physical activity within the classroom³³ and 5) increase in time spent in physical education class.^{23,33} Although wellness policies have shown to be effective in select schools, the majority of schools across the nation are not reaping these benefits due to the inability to write and implement effective school wellness policies. Schools face many barriers to writing strong and comprehensive policies, implementing their written policies, and evaluating the effectiveness of their school wellness policy. It is feasible to suggest that if more individuals are aware of school wellness policies, there is a greater likelihood of a school district recruiting a wellness champion and garnering more support around school wellness efforts. The wellness champion can prioritize writing a strong and comprehensive policy, elucidate policy barriers and increase policy engagement.²³ The 2010 standards of the HHSFKA state that schools need to notify their local community about their school wellness policy efforts.³⁸ It is unclear how many schools are in compliance with this new requirement to disseminate school wellness policy efforts. There is not a feasible, valid, and reliable assessment tool that currently available to evaluate school wellness policy awareness within a school community

Researchers and school districts could benefit from an easy to use school wellness policy awareness assessment tool that could provide a means to evaluate if

schools are disseminating information regarding their school wellness efforts to the school community.

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MANUSCRIPT

INTRODUCTION

Rates of childhood overweight and obesity tripled from 1988 to 2000.¹ Within the last 10 years, the prevalence of overweight and obesity among children has stabilized, but still remains high.^{1,2} Approximately 34% of children aged six to 19 are overweight or obese.² In effort to prevent childhood obesity, the United States Congress passed the Child Nutrition and Women, Infants and Children (WIC) Reauthorization Act in 2004.¹⁰ This act requires every school district in the United States participating in the federally funded National School Lunch and Breakfast Program to create and implement a school wellness policy.^{8,9} In 2010, Congress enacted the Healthy, Hunger-Free Kids Act (HHFKA), which added more detail and additional requirements to the school wellness policy regulations.³⁹ School wellness policies are aimed to shape and improve the school health environment.^{15,16} Wellness policy implementation has been shown to be associated with increased physical activity and nutritional benefits within schools.^{20,23} Physical activity and proper nutrition result in well-nourished and physically active children, who are more likely to participate in class, excel in academics, and positively impact the school district as a whole.⁸

Unfortunately, few schools are seeing positive health results stemming from school wellness policies. Many schools struggle to write strong and comprehensive school wellness policies and to effectively implement their policies. It is estimated that 32% of school districts fail to have a school wellness policy that meets the minimal written requirements set forth in the Children Nutrition and WIC Reauthorization Act.²⁵ During the 2008-09 school year the average written policy only scored 48 out of 100 points possible, when assessed for comprehensiveness of policy components addressed. The average written strength score was even more alarming scoring 28 out of 100 points, when assessed for strength of wording of policy components.²⁶ Weak written policies are less likely to be implemented in school districts than policies that are strong and comprehensive.²⁷ Thus it has been suggested that school wellness policies are more likely to be effective when schools write strong and comprehensive policies because they are more likely to be properly implemented and evaluated.²⁷ Unfortunately, large proportions of school districts across the country are not seeing improvements in implementation.²⁷ Approximately 90% of school board members have reported that their school districts would be unlikely to effectively implement and evaluate their written wellness policies, as required.²⁸ Schools face many barriers to writing strong, comprehensive policies and implementing effective policies.^{23,30,32,33} Common barriers cited by school board members were inadequate funding, competing priorities/lack of time, and a need for wellness policy support.³⁰

Schools with a wellness policy champion have shown to be more likely to experience wellness policy success.²¹ A school wellness champion or consultant is an

individual that provides time and dedication to school wellness policy creation, implementation, and evaluation.³² A champion assists school districts in overcoming barriers that have been identified to hinder successful school wellness policy efforts.²¹ The HHFKA of 2010, authorized that the public, teachers, parents, students, foodservice staff, school administrators and the school board be involved in school wellness policy development and implementation.¹⁴ In addition, this mandate requires that school districts must disseminate the school wellness policy to the public.¹⁴ These requirements were added to ensure that the public is aware of school wellness efforts and to gain community support for the development and implementation of effective wellness policies.¹⁴

Lanier and colleagues surveyed Utah elementary school teachers to assess physical activity and food policy awareness, and evaluated if awareness affected policy implementation.³⁴ Results of the study showed that only 26% of elementary school teachers were aware of their school's food and physical activity policy. There was a positive relationship between the level of awareness of school wellness policies and the degree of policy implementation.³⁴ This study utilized a survey titled "*The Teacher Awareness and Implementation of Food and Physical Activity Policies Survey in Utah Elementary Schools, 2010*". This study only assessed awareness among teachers³⁴, but current regulations require schools to involve the public, teachers, parents, students, foodservice staff, school administrators and the school board.¹⁴ In addition, this survey did not measure policy involvement and contained some open-ended questions that required qualitative assessment.³⁴

Kelder and colleagues assessed the awareness of and adherence to the Senate Bill 19 within the Texas elementary schools by conducting key informant telephone interviews with 169 principals or principal designees during the 2005-2006 school year.³⁵ The results revealed there was a high level of overall awareness of mandate contents among informants with around 96% being aware of requirements. The authors also found that a high level of awareness was associated with a high level of compliance with the physical activity mandate with elementary school students obtaining the recommended amount of physical activity throughout their school day.³⁵ The results of this study supported the idea that increased policy awareness is related to policy compliance. However, this study was very specific to the Texas Senate Bill 19 and focused on physical activity and childhood obesity rates. In addition, this survey did not address involvement and evaluated only principals and principal designees.

To date, there has not been a survey tool developed that assesses engagement in school wellness policies among school administration, school staff and parents. Therefore, the goal of this research study is to create a valid and reliable survey that will measure engagement in school wellness policies. It is intended that this survey to be used by schools, school wellness policy champions, or a wellness policy committee as a means to evaluate the level of awareness and involvement of school wellness policies within their individual school districts.

METHODS

The web based School Wellness Policy Engagement Survey (SWPES) was developed by the wellness policy research team at South Dakota State University through a multistage process that included; item development, item refinement and pilot testing.

ITEM DEVELOPEMENT

Survey questions were developed based on the guidelines provided by the Dillman Method.⁴⁰ The survey consisted of close-ended questions examining school wellness policy engagement by asking questions specific to awareness of and perceived involvement in the school wellness policy. In total, 41 original questions were developed and organized into two subsections. The two subsections were awareness and involvement with 23 questions assessing awareness and 18 questions assessing involvement. All questions were designed to be applicable to school administrators (superintendents, principals, vice-principals, business managers), school staff (teachers, teacher's assistants, guidance counselors, janitorial staff, transportation staff, food service staff, technology coordinators, wellness directors, school secretaries, school nurses, and librarians) and parents (and/or guardians). These groups were included in the survey so the final survey could be used broadly to assess school community engagement across all groups or provide more focused data specific to one of the stakeholder groups.

ITEM REFINEMENT

Nine cognitive interviews (n= 3 school administrators, n=3 teachers and n=3 parents) were conducted to gather feedback on the survey items. Cognitive interview participants were recruited from one small, one medium and one large South Dakota school district. Each participant was recruited via email to participate in cognitive interviews. Two researchers were present during each cognitive interview. The primary researcher was responsible for asking questions and probing research subjects during the cognitive interviews. The secondary researcher was responsible for recording the cognitive interview session and taking notes throughout the session. Cognitive interviews lasted between 40 and 70 minutes. Each interview took place within the South Dakota State University Wellness Policy Lab or within the subject's respective school district. The cognitive interviews provided feedback on relevance, format, layout, wording of items, ease of survey administration, and any additional content areas that participants felt were essential for assessing school wellness policy engagement. The cognitive interviews were transcribed and the survey questions were refined based on participant feedback at each individual cognitive interview, prior to the subsequent interview. Researchers stopped conducting cognitive interviews after interviews were no longer providing novel feedback to improve the survey. An incentive gift card was awarded to participants for their time investment.

PILOT STUDY

The present study included participation of 17 South Dakota school districts (11 small, 4 medium, 2 large) participated in the present study. All participating schools were public schools participating in the National School Lunch Program were required by law to create and implement a school wellness policy. There were 1819 respondents included school administrators (n=45), school staff (n=770) and parents (n=901) from the participating school districts that completed the survey. A subsample of 472 respondents included, school administrators (n=7), school staff (n=189), and parents (n=276) completed the survey a second time.

PROTOCOL

A 41-item web based survey was created utilizing QuestionPro. (QuestionPro Inc, Seattle, Washington, USA, <http://www.questionpro.com>). Superintendents of the participating school districts were asked to distribute the survey link via three modalities: 1) emailing the survey link to school staff and school administrators, 2) posting the survey link on the school website, and 3) sending hard copy mailers containing the survey link home from school with children to provide to their parents. The survey was available online for four weeks. In that time, four reminder emails were sent out to superintendents to prompt subjects to take the survey. All participants had the opportunity to provide an email address if they were interested in taking the survey a second time. A stipend to be used towards physical activity or nutrition education equipment was provided to all participating school districts for their time disseminating

the survey link to recruit survey participants. In addition, each individual survey respondent was given the opportunity to enter their name into a drawing to win a gift card for the time they provided to the study. The South Dakota State University Institutional Review Board approved the study prior to recruitment and data collection. All potential participants were informed of their rights to privacy, anonymity, and confidentiality with institutional guidelines.

VALIDITY

Construct validity measures were assessed through exploratory factor analyses. Three separate factor analyses were performed on the content of the questions, one for school staff, another for parents, and one for all respondents. A factor analysis was not performed on school administrators due to the small sample size of this group. Multicollinearity, skewness, and kurtosis were evaluated, but not deemed problematic. No form of rotation was used for the analysis of the parent data. However, the school staff analysis utilized varimax rotation to make the differences between factors more clear.

Based on the factor analysis conducted on the original 41-item survey, the survey was reduced in size to the questions that strongly represented engagement in both the parents and school staff, which included 14-item survey. Three separate analyses were performed; one for school staff, another for parents, and one for all respondents. Multicollinearity, skewness, and kurtosis were evaluated, but not deemed problematic for the three populations. No form of rotation was used for the analyses.

RELIABILITY

There were 472 respondents, which were comprised of school administrators, (n=7) school staff (n=189), and parents (n=276) that elected to take the survey twice, with approximately four weeks duration between survey attempts. Test-retest reliability was evaluated by running Pearson product Moment correlations for the whole group between Time 1 and Time 2 for each item. Items higher than 0.7 were considered highly reliable. A Pearson product moment correlation for the whole group, school staff group and parent group were done on the scoring of the survey. A Cronbach alpha coefficient was run on the individual groups for scoring to assess internal consistency.

RESULTS

RESPONDENT CHARACTERISTICS

The study focused on 17 public school districts. Of the 17 participating school districts, 11 were small (<600 students enrolled), four were medium (600-1999 students enrolled) and two were large (>2000 students enrolled). The ratio of small, medium, and large school districts within the study sample was representative of the school districts across the state of South Dakota. All 17 superintendents posted the survey link on their school website for parents and staff to access. In addition, all superintendents sent out an email to school staff asking for survey participation. Fourteen superintendents included parents in their mass email to school staff to encourage survey responses. However, three superintendents did not send email reminders to parents due to school district protocol and opted to post survey response information in monthly school

district newsletters. All school districts received hard copy mailers to be distributed to students to take home to their parents to recruit parent participation.

In total, 2401 individuals started the survey and 1819 individuals completed the survey, giving a completion rate of 75%. Survey respondents that completed the survey consisted of 45 school administrators, 770 school staff, and 901 parents. The average amount of time taken to complete the survey was nine minutes. Every school district in the sample had respondents complete the survey.

ITEM VALIDITY

The initial exploratory factor analysis included all original 41-survey items with all respondent groups. Results of the analysis are shown in Table 1. The factors analyzed were “awareness” (factor 1) and “involvement” (factor 2). Each item had an awareness and involvement value. The factor with the value closest to one determined which factor the item was more strongly associated with. The values of the items varied from 0.104 to 0.670. There were 25 items loaded more heavily towards awareness and 15 items loaded towards involvement. One question (“If you were interested in being involved in your school district's wellness policy, is there a process in place to allow you to get involved?”) failed to have any variability therefore it was not included within the factor analysis.

Factor Matrix		
	Factor	
	1	2
How much better do you think physically active students do in school compared to inactive students?	.148	.371
How much better do you think students that eat healthy foods do in school than students that do not eat healthy foods?	.134	.392
How important do you think physical activity in school is for a child to maintain a healthy weight?	.117	.374
How important do you think appropriate nutrition in school is for a child to maintain a healthy weight?	.121	.403
Do you think students are more overweight today than in the past 20 years?	.043	.104
How aware are you of the requirements of Section 204 of Public Law 108-264, Child Nutrition and Women, Infants, and Children (WIC) Reauthorization Act of 2004?	.298	.092
How aware are you of the requirements for the Healthy, Hunger-Free Kids Act of 2010?	.337	.081
How aware are you of your school district's wellness policy?	.501	-
Have you read your school district's wellness policy?	.440	.073
Do you know where a hard copy of your school district's wellness policy is located?	.369	-
Is your school district's wellness policy accessible via an online source, such as a school website or web page?	.375	.108
How does your school district address nutrition education?	.401	-
Does your school district require physical education (PE) participation among students of all grade levels (Kindergarten-12th grade)?	.401	.129
Does your school district require physical education (PE) participation among students of all grade levels (Kindergarten-12th grade)?	.218	-
Does your school district meet the U.S. Department of Agriculture (USDA) food standards for breakfast and lunch?	.300	.033
Does your school district meet the U.S. Department of Agriculture (USDA) food standards for breakfast and lunch?	.300	-
Does your school district have a plan for implementation and continued evaluation of the school wellness policy?	.572	.006
Does your district have a wellness policy committee that DEVELOPED the school wellness policy?	.666	-
Does your school district have a wellness policy committee that MANAGES the school wellness policy?	.670	.253
Does your school district have a wellness policy committee that MANAGES the school wellness policy?	.670	-
Do you know who the members of your wellness policy committee are?	.619	.232
How often in the past year did your school wellness policy committee meet?	.508	-
Does your school district have a designated wellness policy coordinator or champion that manages the school wellness policy?	.541	.197
How often has your school district informed the public of changes made to the wellness policy content?	.523	-
How often has your school district informed the public of changes made to wellness policy implementation?	.492	.151
Do you know the method your school district informs the public of wellness policy changes? Ex: Email notification, updates on school webpage, parent teacher conferences, board of education meetings, newsletters.	.486	-
Do you know the method your school district informs the public of wellness policy changes? Ex: Email notification, updates on school webpage, parent teacher conferences, board of education meetings, newsletters.	.186	.133
Do you know the method your school district informs the public of wellness policy changes? Ex: Email notification, updates on school webpage, parent teacher conferences, board of education meetings, newsletters.	.186	-
Do you know the method your school district informs the public of wellness policy changes? Ex: Email notification, updates on school webpage, parent teacher conferences, board of education meetings, newsletters.	.186	.041

Are you a member of your school district's wellness policy committee?	.409	- .081
Have you ever been asked to be a member of your school district's wellness policy committee?	.204	- .027
If given the opportunity, how involved would you want to be in your school district's wellness policy committee?	.217	.512
If given the opportunity, how involved would you want to be in wellness policy implementation within your school district?	.258	.455
How active of a role do you currently play with wellness policy implementation?	.445	.011
How valuable do you view a wellness policy committee within your school district?	.237	.365
How often do you use the wellness policy committee as a resource?	.598	- .126
How often do you engage in interscholastic sports? Ex: participating in a school sponsored sports team, watching a school sponsored sports team, fundraising for a school sponsored sports team?	.178	.171
How often do you currently engage in classroom celebrations (parties) that provide healthy food options for students?	.210	.383
How often do you promote your student(s) to participate in active transportation to school? Ex: Encouraging your student(s) to walk or bike to school.	.221	.355
How often do you encourage student(s) to engage in physical activity during school hours?	.164	.551
How often do you encourage student(s) to be physically active during recess?	.071	.477
How often do you use exercise as a reward for student(s)? Ex: For doing a good job on homework student(s) get to run around the track.	.280	.376
How often do you use exercise as a punishment for your student(s)? Ex: For not turning in homework on time student(s) have to do 5 push ups.	.113	.082
How often do you encourage your student(s) to participate in before/after school nutrition education or physical activity programs?	.262	.407
How often do you volunteer your time to help with your school district's nutrition education or physical activity related programs?	.404	.166
How beneficial do you think adults being healthy role models is to children?	.126	.384

Table 1. Exploratory Factor Analysis Matrix including original 41-item SWPES survey for the Whole Group. Note: factor 1 = awareness; factor 2 = involvement; Whole Group= School Administrators, School Staff and Parents

The individual group factor analyses are shown in Table 2 (school staff) and table 3 (parents). The school staff factor analysis items values varied from 0.137 to 0.620. There were 28 items that loaded towards awareness and 13 items loaded towards involvement. The parent factor analysis values varied from 0.124 to 0.646. There were 26 items that loaded more heavily towards “awareness” and 15 items loaded more heavily towards “involvement”. Among the school staff and parent groups, 26 items loaded consistently into the awareness factor, eight items loaded consistently in the involvement factor and two items failed to measure consistently.

Factor Matrix		
	Factor	
	1	2
How much better do you think physically active students do in school compared to inactive students?	.175	.346
How much better do you think students that eat healthy foods do in school than students that do not eat healthy foods?	.179	.361
How important do you think physical activity in school is for a child to maintain a healthy weight?	.223	.420
How important do you think appropriate nutrition in school is for a child to maintain a healthy weight?	.193	.419
Do you think students are more overweight today then in the past 20 years?	.066	.137
How aware are you of the requirements of Section 204 of Public Law 108-264, Child Nutrition and Women, Infants, and Children (WIC) Reauthorization Act of 2004?	.314	-.016
How aware are you of the requirements for the Healthy, Hunger-Free Kids Act of 2010?	.364	-.047
How aware are you of your school district's wellness policy?	.492	-.121
Have you read your school district's wellness policy?	.412	-.170
Do you know where a hard copy of your school district's wellness policy is located?	.307	-.134
Is your school district's wellness policy accessible via an online source, such as a school website or web page?	.304	-.213
How does your school district address nutrition education?	.375	-.051
Does your school district require physical education (PE) participation among students of all grade levels (Kindergarten - 12th grade)?	.193	.007
Does your school district meet the U.S. Department of Agriculture (USDA) food standards for breakfast and lunch?	.271	-.048
Does your school district have a plan for implementation and continued evaluation of the school wellness policy?	.526	-.251
Does your school district have a wellness policy committee that <u>developed</u> the school wellness policy?	.595	-.283
Does your school district have a wellness policy committee that <u>manages</u> the school wellness policy?	.620	-.289
Do you know who the members of your wellness policy committee are?	.599	-.186
How often in the past year did your school wellness policy committee meet?	.515	-.204
Does your school district have a designated wellness policy coordinator or champion that manages the school wellness policy?	.497	-.201
How often has your school district informed the public of changes made to wellness policy content?	.494	-.249
How often has your school district informed the public of changes made to wellness policy implementation?	.473	-.217

Do you know the method your school district informs the public of wellness policy changes?	.178	- .105
Are you a member of your school district's wellness policy committee?	.426	- .045
Have you ever been asked to be a member of your school district's wellness policy committee?	.162	.052
If given the opportunity, how involved would you want to be in your school district's wellness policy committee?	.187	.516
If given the opportunity, how involved would you want to be in wellness policy implementation within your school district?	.219	.462
How active of a role do you currently play with wellness policy implementation?	.449	.053
How valuable do you view a wellness policy committee within your school district?	.293	.304
If you were interested in being involved in your school district's wellness policy, is there a process in place to allow you to get involved?	.501	- .167
How often do you use the wellness policy committee as a resource?	.567	- .152
How often do you engage in interscholastic sports?	.272	.084
How often do you currently engage in classroom celebrations (parties) that provide healthy food options for students?	.278	.362
How often do you promote your student(s) to participate in active transportation to school?	.360	.394
How often do you encourage student(s) to engage in physical activity during school hours?	.346	.522
How often do you encourage student(s) to be physically active during recess?	.170	.389
How often do you use exercise as a reward for student(s)?	.374	.306
How often do you use exercise as a punishment for your student(s)?	.178	.037
How often do you encourage your student(s) to participate in before/after school nutrition education or physical activity programs?	.443	.291
How often do you volunteer your time to help with your school district's nutrition education or physical activity related programs?	.491	.110
How beneficial do you think adults being healthy role models is to children?	.198	.375

Table 2. Exploratory Factor Analysis Matrix including original 41-item SWPES survey for School Staff.
Note: factor 1 = awareness; factor 2 = involvement

Factor Matrix ^a		
	Factor	
	1	2
How much better do you think physically active students do in school compared to inactive students?	.176	.401
How much better do you think students that eat healthy foods do in school than students that do not eat healthy foods?	.136	.466
How important do you think physical activity in school is for a child to maintain a healthy weight?	.109	.441
How important do you think appropriate nutrition in school is for a child to maintain a healthy weight?	.065	.454
Do you think students are more overweight today then in the past 20 years?	.025	.125
How aware are you of the requirements of Section 204 of Public Law 108-264, Child Nutrition and Women, Infants, and Children (WIC) Reauthorization Act of 2004?	.336	.082
How aware are you of the requirements for the Healthy, Hunger-Free Kids Act of 2010?	.401	.051
How aware are you of your school district's wellness policy?	.475	-.076
Have you read your school district's wellness policy?	.437	-.134
Do you know where a hard copy of your school district's wellness policy is located?	.427	-.154
Is your school district's wellness policy accessible via an online source, such as a school website or web page?	.446	-.151
How does your school district address nutrition education?	.305	-.095
Does your school district require physical education (PE) participation among students of all grade levels (Kindergarten - 12th grade)?	.197	-.046
Does your school district meet the U.S. Department of Agriculture (USDA) food standards for breakfast and lunch?	.301	-.006
Does your school district have a plan for implementation and continued evaluation of the school wellness policy?	.583	-.137
Does your school district have a wellness policy committee that <u>developed </u>the school wellness policy?	.646	-.197
Does your school district have a wellness policy committee that <u>manages</u> the school wellness policy?	.638	-.162
Do you know who the members of your wellness policy committee are?	.597	-.193
How often in the past year did your school wellness policy committee meet?	.426	-.156
Does your school district have a designated wellness policy coordinator or champion that manages the school wellness policy?	.504	-.193
How often has your school district informed the public of changes made to wellness policy content?	.588	-.192
How often has your school district informed the public of changes made to wellness policy implementation?	.553	-.183
Do you know the method your school district informs the public of wellness policy changes?	.213	-.069

Are you a member of your school district's wellness policy committee?	.304	- .109
Have you ever been asked to be a member of your school district's wellness policy committee?	.259	- .106
If given the opportunity, how involved would you want to be in your school district's wellness policy committee?	.251	.576
If given the opportunity, how involved would you want to be in wellness policy implementation within your school district?	.269	.574
How active of a role do you currently play with wellness policy implementation?	.317	- .013
How valuable do you view a wellness policy committee within your school district?	.266	.421
If you were interested in being involved in your school district's wellness policy, is there a process in place to allow you to get involved?	.413	- .167
How often do you use the wellness policy committee as a resource?	.551	- .108
How often do you engage in interscholastic sports?	.220	.145
How often do you currently engage in classroom celebrations (parties) that provide healthy food options for students?	.245	.340
How often do you promote your student(s) to participate in active transportation to school?	.223	.243
How often do you encourage student(s) to engage in physical activity during school hours?	.198	.416
How often do you encourage student(s) to be physically active during recess?	.145	.408
How often do you use exercise as a reward for student(s)?	.275	.344
How often do you use exercise as a punishment for your student(s)?	.124	.076
How often do you encourage your student(s) to participate in before/after school nutrition education or physical activity programs?	.267	.318
How often do you volunteer your time to help with your school district's nutrition education or physical activity related programs?	.335	.141
How beneficial do you think adults being healthy role models is to children?	.160	.365

Table 3. Exploratory Factor Analysis Matrix including original 41-item SWPES survey for Parents. Note: factor 1 = awareness; factor 2 = involvement

Based on these results the survey was reduced in length to the items that loaded at values ≥ 0.4 level and loaded consistently within the same factor (awareness or involvement) for all groups. Using this criterion, the survey was reduced to 14 items. The questions that did not meet these criteria were eliminated from the survey. After

the survey was reduced, only two questions that consistently loaded into the “involvement” factor remained in the survey. This eliminated the ability to have subsections of the survey that provided separate quantitative assessments of awareness and involvement. “Engagement” was then used as a joint factor to conceptualize the original “awareness” and “involvement” factors on a subsequent factor analysis of the 14 item reduced survey with scoring added to the questions.

SCORING VALIDITY

Scoring was added to the 14 survey questions based on how high they loaded into the factor analysis. A subsequent exploratory factor analysis was conducted on the scoring of the revised 14-item survey. Results of the scoring factor analysis are displayed in Table 4 with the 14-items and the individual school staff group, parent group and total group. There were 12 questions that loaded very well ranging from values of 0.477 to 0.745 among all groups. However, two questions (“If given the opportunity, how involved would you want to be in wellness policy implementation within your school district?” and “If you were interested in being involved in your school districts wellness policy, is there a process in place to allow you to get involved?") loaded very poorly ranging from -.0157 to 0.104.

Factor Matrix	Whole Group	School Staff	Parents
How aware are you of your school districts wellness policy?	.477	.476	.420
Have you read your school districts wellness policy?	.544	.531	.486
Does your school district have a plan for implementation and continued evaluation of the school wellness policy?	.593	.578	.583
Does your school district have a wellness policy committee that developed the school wellness policy?	.731	.672	.697
Does your school district have a wellness policy committee that manages the school wellness policy?	.745	.727	.676
Do you know who the members of your wellness policy committee are?	.660	.622	.615
How often in the past year did your school wellness policy committee meet?	.531	.533	.429
Does your school district have a designated wellness policy coordinator or champion that manages the school wellness policy?	.599	.543	.565
How often has your school district informed the public of changes made to wellness policy content?	.566	.551	.650
How often has your school district informed the public of changes made to wellness policy implementation?	.530	.528	.625
If given the opportunity, how involved would you want to be in your school districts wellness policy committee?	-.038	-.157	.095
If given the opportunity, how involved would you want to be in wellness policy implementation within your school district?	.012	-.117	.104
If you were interested in being involved in your school districts wellness policy, is there a process in place to allow you to get involved?	.510	.487	.429
How often do you use the wellness policy committee as a resource?	.608	.577	.554

Table 4. Exploratory Factor Analysis Matrix including 14-item SWPES survey among the whole group, school staff group and parent group.

RELIABILITY

Test-retest reliability was examined through Pearson product moment correlations for the whole group between Time 1 and Time 2 for the original 41-item survey. The correlation analysis resulted in good reliability for the total group ($r=0.777$). Test-retest reliability of the refined 14-item survey resulted in good reliability for the total score among the whole group ($r=0.802$), school staff group ($r=0.755$) and parent group ($r=0.816$). Results of the Pearson correlation of the whole group, school staff and parents are presented in table 5. Internal consistency was examined via Cronbach's

alpha across the whole group and among individual groups. Cronbach's alpha displayed acceptable internal consistency within the whole group ($r=0.810$), school staff ($r=0.792$) and parents ($r=0.776$).

Group	n	r value	p value
Whole Group Total Score	367	0.802	3.44 E-025
School Staff Total Score	130	0.755	1.67E-056
Parents Total Score	231	0.812	9.14E-084

Table 5. Reliability between Test 1 and Test 2 of 14-item SWPES survey among the whole group, school staff group and parent group. Note: Whole group= School Administrators, School Staff and Parents; School Staff=teachers, teacher's assistants, guidance counselor, janitorial staff, transportation staff, food service staff, technology coordinators, wellness directors, school secretaries, school nurses, and librarians.

DISCUSSION

The goal of the present research study was to create a valid and reliable survey that can assess school wellness policy engagement by school administrators, school staff, and parents. SWPES was created to be feasible to use for scientists studying school wellness policy best practices as well as school wellness committees evaluating school wellness efforts within their district. The original 41-item survey was reduced to 14 questions based on the initial exploratory factor analysis. With scoring added, 12 items (loaded at values ≥ 0.4) loaded strongly into the single engagement factor and two items failed to load strongly (loaded at values < 0.04). The test-retest reliability measures resulted in good reliability among the whole group, school staff group and parent group. Internal consistency was deemed acceptable among the whole group, and individual groups. To our knowledge, this is the first study to formally assess the validity and reliability of a quantities, online survey measuring engagement in school wellness

policies among school administration, school staff and parents. Although validity and reliability of the current survey was not poor, modifications to the question format and scoring format, could improve the SWPES. In addition, more detailed evaluation models could be utilized to further confirm the quality of the survey after the question format and scoring format are improved.

The first main modification that can be made to improve the SWPES is the consistency of question format. Questions following a Likert scale format would allow the survey questions to have similar question stems and question answer options. In the current survey, questions were formed based on multiple topics. Topics included were; awareness level of wellness policy, awareness of wellness policy components, interest in being involved in wellness policy initiatives, and whether school districts provides opportunities to be involved. Therefore, some questions were descriptive in nature asking about facts related to the school district school wellness policy while others were based on perception or feelings. For example, a descriptive question assessing facts in the current survey is “How often in the past year did your school district wellness policy committee meet?” An example of a question focused on perception or feelings is “If given the opportunity, how involved would you want to be in wellness policy implementation?” The problem with a mixture of these two types of questions is that some questions may be measuring respondent knowledge of school wellness practices while other questions are measuring interest in being aware or involved in school wellness policies. For future revisions, questions will contain similar content from the original survey but they will be revised. Questions will measure

perception of school district opportunities that allow school administrators, school staff and parents to be aware and involved.

The second modification that could be made to improve the present survey is the scoring methodology. The maximal score for each question using the present scoring methodology varies from three to four points with minimal scores being zero. The scores differed on each question due to the variability in the number of response available and the strength of the loading of each question from the factor analysis. Due to the complexity of this scoring method an electronic scoring system is required for feasibility of score computation of a large number of survey respondents. Therefore, this type of scoring would not allow the survey tool to be used as a written survey. A Likert scale scoring system would provide an ordinal scoring system that would be universal throughout the whole survey where each question has the same number of answer options with the same score value for each answer.⁴¹ Likert scale questions would make the survey more user friendly for scientists, school wellness policy champions or a wellness policy committee to administer the survey in a method other than online format and still be easily scored. In addition, Likert type format would permit a wider range of responses among respondents.⁴²

Originally, the survey was created to produce a total score as well as separate awareness and involvement subsection scores. However, due to the limited number of involvement questions that remained within the survey after the survey was reduced, it was not feasible to have separate subsection scoring. The benefit of the SWPES with separate subsection scoring is being able to assess only awareness or only involvement.

This would give the opportunity to more specifically assess where improvements in policy implementation need to occur within individual school districts related to awareness or involvement. Ideally, in future modifications of the SWPES, there would be equal number of awareness and involvement questions in Likert format to allow for these subsections of the survey to be evaluated as independent variables that are predictive of overall school community engagement in school wellness policy efforts.

The current study utilized exploratory factor analysis to assess construct validity. An exploratory factor analysis assesses the degree to which scores on a survey measure the underlying factors. In the case of this study, the two factors were awareness and involvement. Correlations are then used to examine relationships between the two factors to assess which factor the questions loaded closest to. These correlations provided a numerical means of refining questions and adding scoring to the SWPES. However in general, factor analyses require a large amount of interpretability and involve a lot of subjective judgments among researchers. The Pearson product moment correlation was used to assess survey reliability. In the case of this study, the relationship between the survey response collected at time one and time were evaluated among the whole group and individual groups. A Cronbach alpha coefficient was run on the whole group and school staff and parent groups to assess internal consistency. This method is versatile in the fact that it can be used with items that have various point values, much like the SWPES.⁴² Although these measurements of validity and reliability were successful, an additional statistical model may allow for a more comprehensive review of the survey components.

Therefore, the third modification suggested for continual improvement of the SWPES is the use of a more detailed evaluation model that could further confirm the quality of the survey. The Rasch model has become popular with a number of studies that have been published in health related research for survey development and refinement such as clinical rehabilitation and sport psychology.⁴³⁻⁴⁵ Most recently, it has been introduced in areas such as physical activity and human movement.⁴⁶ The Rasch model, is an advanced measurement theory that assesses the degree of validity of a survey's scoring.^{47,48} The Rasch model answers three key questions related to survey development and refinement: 1) which items are biased and for whom, 2) which items express the trait to be measured, and 3) which individual's are properly measured by the items that express the trait being measured.⁴⁹ The Rasch model assumes that a more capable individual has an increased chance of success on an item than a less capable individual, and that any individual has a chance of success on an easy item compared to a difficult item. In other words, an individual's measure on any trait is a reflection of their *ability* and the item's *difficulty*. All of the information needed about an individuals' ability is shown in the number of items answered correctly on a survey.⁴⁹ When fitting data for the Rasch model, both an individual's ability to answer items related to the trait and item difficulty are placed on a common metric.⁵⁰ The linking of item difficulty to an individual's ability allows the examination of whether participants in the study respond to a measure in a consistent or reliable manner.^{48,50} Through goodness-of-fit statistics, it can be determined how well the data fit the Rasch model.⁵¹ If all the survey items are good fit items, this presents the researcher evidence of

construct validity.⁵¹ Therefore, advancements of the Rasch model make it a feasible potential statistical model for refinement of the SWPES. The advantages of the Rasch model being used on SWPES are threefold: 1) the Rasch Model would allow for researchers to evaluate which items are biased for which group (school administrators, school staff and parents) 2) the Rasch Model would allow for researchers to evaluate which items are actually measuring awareness and involvement and 3) the Rasch Model would allow for researchers to evaluate whether the item difficulties match the individual's ability to answer awareness and involvement questions.

Although we were successful in creating a survey with evidence of validity and reliability, continual refinement of the SWPES is needed to strengthen the survey tool and make it more feasible for use by school districts. Improvements consist of revised question format to consistently assess perception of awareness and involvement opportunities, a Likert question scoring system to allow for consistent item scoring, and additional evaluation models to evaluate the content validity of the survey. The SWPES has promise to being an instrument that scientists, school districts, and school wellness policy committees, can use to assess school wellness policy best practices as well as conduct evaluations of school wellness efforts within their district.

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APPENDIX

Appendices A: 41-item Original Wellness Policy Awareness and Involvement Survey

Hello, South Dakota State University would really appreciate your participation in our survey measuring awareness and involvement in school wellness policies. It will take approximately 10-15 minutes to complete the survey. Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. Your opinions are very valuable to us. Your information will remain confidential. If you have questions at any time about the survey or the procedures, you may contact Tara Pratt at 605-688-4668 or by email at tara.pratt@sdstate.edu. Thank you very much for your time and support. We really appreciate your help. As a thank you for participating in this survey, you will have the chance to win one of five \$100 gift cards. Please start with the survey now by clicking on the Continue button below.

Awareness

How much better do you think physically active students do in school compared to inactive students?

1. Much better
2. Somewhat better
3. No difference
4. Somewhat worse
5. Much worse

How much better do you think students that eat healthy foods do in school than students that do not eat healthy foods?

1. Much better
2. Somewhat better
3. No difference
4. Somewhat worse
5. Much worse

How important do you think physical activity in school is for a child to maintain a healthy weight?

1. Very important
2. Somewhat important
3. Neutral
4. Not very important
5. Not at all important

How important do you think appropriate nutrition in school is for a child to maintain a healthy weight?

1. Very important
2. Somewhat important
3. Neutral
4. Not very important
5. Not at all important

Do you think students are more overweight today than in the past 20 years?

1. Yes
2. No
3. I do not know

How aware are you of the requirements of Section 204 of Public Law 108-264, Child Nutrition and Women, Infants, and Children (WIC) Reauthorization Act of 2004?

1. I am aware of the Child Nutrition and WIC Reauthorization Act and all of the requirements
2. I have heard of the Child Nutrition and WIC Reauthorization Act and am aware of some of the requirements
3. I have heard of the Child Nutrition and WIC Reauthorization Act but am not aware of the requirements
4. I have never heard of the Child Nutrition and WIC Reauthorization Act

How aware are you of the requirements for the Healthy, Hunger-Free Kids Act of 2010?

1. I am aware of the Healthy, Hunger-Free Kids Act and the requirements
2. I have heard of the Healthy, Hunger-Free Kids Act and am aware of some of the requirements
3. I have heard of the Healthy, Hunger-Free Kids Act but am not aware of the requirements
4. I have never heard of the Healthy Hunger-Free Kids Act or the requirements

How aware are you of your school districts wellness policy?

1. Very aware
2. Slightly aware
3. Not at all aware

Have you read your school districts wellness policy?

1. Yes
2. No

Do you know where a hard copy of your school districts wellness policy is located?

1. Yes
2. No
3. My school districts wellness policy is not available in hard copy

Is your school districts wellness policy accessible via an online source, such as a school website or web page?

1. Yes, my school districts wellness policy is available online
2. No, my school districts wellness policy is not available online
3. I do not know if my school districts wellness policy is available online

How does your school district address nutrition education?

1. My school district has separate nutrition education courses for students (Example: 9th grade Human Nutrition Class)
2. My school district incorporates nutrition education within other classes (Example: Nutrition Education in Science Class)
3. My school does not address nutrition education
4. I do not know

Does your school district require physical education (PE) participation among students of all grade levels (Kindergarten - 12th grade)?

1. My school district requires all grade levels to participate in PE class
2. My school district requires some grade levels to participate in PE class
3. My school district does not require PE
4. I don't know

Does your school district meet the U.S. Department of Agriculture (USDA) food standards for breakfast and lunch?

1. Yes
2. No
3. I do not know

Does your school district have a plan for implementation and continued evaluation of the school wellness policy?

1. Yes

2. No
3. I do not know

Does your school district have a wellness policy committee that developed the school wellness policy?

1. Yes
2. No
3. I do not know

Does your school district have a wellness policy committee that manages the school wellness policy?

1. Yes
2. No
3. I do not know

Do you know who the members of your wellness policy committee are?

1. Yes, I know all of the wellness policy committee members
2. Yes, I know only some of the wellness policy committee members
3. No, I do not know any of the wellness policy committee members

How often in the past year did your school wellness policy committee meet?

1. Two or more times in the past year
2. One time in the past year
3. They did not meet in the past year
4. I do not know

Does your school district have a designated wellness policy coordinator or champion that manages the school wellness policy?

1. Yes
2. No
3. I do not know

How often has your school district informed the public of changes made to wellness policy content?

1. Twice a year or more
2. Once a year

3. Less than once a year
4. I do not know

How often has your school district informed the public of changes made to wellness policy implementation?

1. Twice a year or more
2. Once a year
3. Less than once a year
4. I do not know

Do you know the method your school district informs the public of wellness policy changes?

Example: Email notifications, updates on school webpage, parent teacher conferences, board of education meetings, newsletters.

1. Yes
2. No
3. I do not know

Involvement

Are you a member of your school districts wellness policy committee?

1. Yes
2. No

Have you ever been asked to be a member of your school districts wellness policy committee?

1. Yes
2. No

If given the opportunity, how involved would you want to be in your school districts wellness policy committee?

1. I would be very involved
2. I would be somewhat involved
3. I would not be involved at all

If given the opportunity, how involved would you want to be in wellness policy implementation within your school district?

1. I would be very involved

2. I would be somewhat involved
3. I would not be involved at all

How active of a role do you currently play with wellness policy implementation?

1. Very active role
2. Somewhat active role
3. Not an active role at all

How valuable do you view a wellness policy committee within your school district?

1. Very valuable
2. Somewhat valuable
3. Not valuable at all

If you were interested in being involved in your school districts wellness policy, is there a process in place to allow you to get involved?

1. Yes, there is a process to get involved
2. No, there is not a process to get involved
3. I do not know

How often do you use the wellness policy committee as a resource?

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you engage in interscholastic sports? Example: participating in a school sponsored sports team, watching a school sponsored sports team, fundraising for a school sponsored sports team?

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you currently engage in classroom celebrations (parties) that provide healthy food options for students?

1. Often

2. Sometimes
3. Rarely
4. Never

How often do you promote your student(s) to participate in active transportation to school?

Example: Encouraging your student(s) to walk or bike to school

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you encourage student(s) to engage in physical activity during school hours?

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you encourage student(s) to be physically active during recess?

1. Often
2. Sometimes
3. Rarely
4. Never
5. My student(s) do not have recess

How often do you use exercise as a reward for student(s)? Example: For doing a good job on homework student(s) get to run around the track

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you use exercise as a punishment for your student(s)? Example: For not turning in homework on time student(s) have to do 5 push-ups

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you encourage your student(s) to participate in before/after school nutrition education or physical activity programs?

1. Often
2. Sometimes
3. Rarely
4. Never

How often do you volunteer your time to help with your school districts nutrition education or physical activity related programs?

1. Often
2. Sometimes
3. Rarely
4. Never

How beneficial do you think adults being healthy role models is to children?

1. Very Beneficial
2. Somewhat Beneficial
3. Not Beneficial

Demographics

What is your gender?

1. Male
2. Female

Please indicate which school district you are most closely associated with.

1. Arlington
2. Brandon Valley
3. Canistota
4. Chamberlain
5. Colman-Egan
6. Dell Rapids
7. Deubrook Area
8. Faulkton Area
9. Fredrick Area
10. Edgemont
11. Groton Area
12. Harrisburg
13. Herreid
14. Hoven
15. Montrose
16. Platte-Geddes
17. West Central

Please indicate your primary role within the school district. For example, if you are teacher and a parent, please choose teacher.

1. Superintendent
2. Principal
3. Assistant Principal
4. Teacher
5. Teachers Assistant
6. Food Service Staff
7. School Secretary
8. Guidance Counselor
9. Janitorial Staff
10. School Nurse
11. Parent
12. Wellness Director
13. Business Manager
14. Technology Coordinator
15. Other

How many children do you have in the school district?

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8+

Are you considered a Physical Education, Health or Nutrition Education teacher?

1. Yes
2. No
3. I do not know

How long have you been in your current position within your school district?

1. 0-5 years
2. 6-10 years
3. 11-15 years
4. 16-20 years
5. 21-25 years
6. 26-30 years
7. 31-35 years

8. 36-40 years
9. 40+ years

Would you be interested in taking this survey a second time to receive an additional chance at winning a \$100 gift card? The survey will be sent directly to your email address at a later date.

1. Yes, I would be interested in taking the survey a second time.
2. No, I am not interested in taking the survey a second time.

Appendices B: School Wellness Policy Incentive Survey

If you wish to be put into the drawing to have a chance at winning one of five \$100 gift cards, please provide your email in the box provided below. Your survey responses given are not connected to your email address. Your email and survey responses remain confidential. You will be notified by email if you are a winner of a gift card.

Appendices C: School Wellness Policy Second Time Inquiry Survey

If you wish to take the survey again at a later date, please provide your email in the box below. You will be notified by email to take the survey again. Your survey responses given are not connected to the email address you provide. Your email and survey responses will remain confidential.

