

SCHOOL WELLNESS POLICY QUALITY AND
FACTORS AFFECTING IMPLEMENTATION IN
RURAL OKLAHOMA ELEMENTARY SCHOOLS

By

ZACHARY J. BASSETT

Bachelor of Science in Food, Human Nutrition, and

Hospitality

University of Arkansas

Fayetteville, AR

2014

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
July, 2016

SCHOOL WELLNESS POLICY QUALITY AND
FACTORS AFFECTING IMPLEMENTATION IN
RURAL OKLAHOMA ELEMENTARY SCHOOLS

Thesis Approved:

Dr. Deana Hildebrand

Thesis Adviser

Dr. Gail Gates

Dr. Nancy Betts

ACKNOWLEDGEMENTS

First and foremost I have to thank God for blessing me with the opportunity to attend and graduate from college and graduate school. I understand how lucky and fortunate I am and I could not have done it without God.

I would also like to thank my thesis advisor Dr. Deana Hildebrand in the Nutritional Sciences department at Oklahoma State University. Dr. Hildebrand's office was always open whenever I ran into a trouble spot or had a question about my research or writing. I would also like to acknowledge and thank my committee members, Dr. Gail Gates and Dr. Nancy Betts.

Finally, I must express my very profound gratitude to my parents and to my girlfriend for providing me with unfailing support (both financially and emotionally) and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them. Thank you.

Name: ZACHARY BASSETT

Date of Degree: JULY, 2016

Title of Study: SCHOOL WELLNESS POLICY QUALITY AND FACTORS AFFECTING IMPLEMENTATION IN RURAL OKLAHOMA ELEMENTARY SCHOOLS

Major Field: NUTRITIONAL SCIENCES

Abstract: School districts have been required to develop a school wellness policy (SWP) since the Child Nutrition and WIC Reauthorization Act of 2004 was passed by Congress. School wellness polices consist of objectives for addressing nutrition, physical activity/education, policy implementation, and wellness promotion within the school. Little is known about the factors that influence SWP implementation. The purpose of this study was to investigate correlations between school wellness policy quality (measured by the WellSAT 2.0) and policy implementation (measured by the WellSAT-I). The WellSAT 2.0 is an assessment tool used to grade SWPs based on components that should be included in policies. The WellSAT-I is a pilot implementation assessment tool which consists of interviews and observations of the school site. Both tools result in scores ranging from 0 to 100%. To assess the effect of academic and administrative factors on SWP implementation, principals prioritized nine academic and administrative responsibilities. Variables included two policy quality scores (comprehensiveness and strength), two policy implementation scores (scope and mastery) and principals' prioritized responsibilities. Study sites included 15 rural Oklahoma elementary schools who volunteered for participation. Data were analyzed using descriptive statistics and bivariate correlation analysis, specifically Spearman's rank order correlation. Mean SWP quality scores were $53.3\% \pm 15.87$ for comprehensiveness and $27.3\% \pm 11.20$ for strength. Mean implementation scores were $79.5\% \pm 8.67$ for scope and $60.7\% \pm 9.82$ for mastery. The highest prioritized responsibility was school safety and violence ($\bar{x}=7.87 \pm 1.13$). There was a significant association between SWP strength and implementation mastery scores ($r=0.645$, $p=0.009$), and a significant association between implementation mastery score and school safety and violence ($r=0.548$, $p=0.034$). School principals that prioritize safe school environments led schools with more extensive implementation of SWP provisions. SWP quality is an indicator of higher implementation scores indicating that school districts should focus on improving their policies. Implementation scores being higher than policy scores suggest that policies require updating in order to reflect actual implementation. Providing schools with high quality policy models along with implementation training and resources may be effective in improving school health environments in rural elementary schools.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
II. LITERATURE REVIEW.....	4
Prevalence and Effects of Overweight and Obesity	4
Consequences of Overweight and Obesity	5
Associated Health Problems	5
Cost of Overweight and Obesity.....	6
Link between Academic Performance and Overweight and Obesity	6
Contributors to Overweight and Obesity	7
Differences between Rural and Urban Environments	8
Parental Beliefs Regarding Childhood Overweight and Obesity	9
Efforts to Neutralize Childhood Overweight and Obesity.....	11
Child Nutrition and WIC Reauthorization Act	11
School Nutrition Standards.....	13
Comprehensive School Physical Activity Program	14
Tools Used to Evaluate School Wellness Policies.....	14
WellSAT: A Measure of Policy Quality	15
WellSAT-I: A Measure of Policy Implementation.....	16
SWP Quality Predicts Implementation	17
Lack of Data on Oklahoma SWP Quality and Implementation.....	18
III. METHODS	19
Participants.....	19
Data Collection	20
Grader Reliability of WellSAT 2.0.....	22
Grader Reliability of WellSAT-I	23
Data Analysis	23

Chapter	Page
IV. FINDINGS.....	25
Demographics	25
School Wellness Policy Quality Scores	27
School Wellness Policy Implementation Scores.....	28
Association between Policy Quality and Implementation	29
School Principals’ Priorities and SWP Implementation	31
V. DISCUSSION	36
School Wellness Policy Quality.....	36
WellSAT-I Scores	40
Association between Policy Quality and Policy Implementation.....	41
Association between School Principals’ Priorities and SWP Implementation.....	42
Conclusions.....	43
Recommendations to Strengthen Policy Quality and Implementation	44
Strengths and Limitations of the Study.....	45
Recommendations Regarding the Pilot WellSAT-I.....	46
REFERENCES	51
APPENDICES	58

LIST OF TABLES

Table	Page
4.1: Demographic Data of Participating Schools.....	26
4.2: Policy Quality and Implementation Mean Scores	29
4.3: Associations between Policy and Implementation Scores.....	31
4.4: Rankings of Principal Academic and Administrative Priority Items by School	33
4.5: Associations between Principal Academic and Administrative Priority Rankings and Implementation Scores.....	35

LIST OF FIGURES

Figure	Page
4.1: Mean Principal Academic and Administrative Priority Item Rankings	34

CHAPTER I

INTRODUCTION

Childhood overweight and obesity has become a major public health problem in the United States with over 31 percent of children being overweight or obese (Avery et al., 2013). The increase in weight among students has been attributed, in part, to more calories being consumed than burned through physical activity. Children in Oklahoma are at higher risk for childhood overweight and obesity due to being a primarily rural state which has been associated with a higher prevalence of overweight/obesity (Johnson & Johnson, 2015).

The effects of being overweight or obese are detrimental to children because they create a higher risk for chronic health problems later in life and lower academic performance. Parent dietary behaviors and beliefs also play a major role in a child's health (Lazarou et al., 2008). The diet and importance of maintaining a healthy weight by parents have been shown to have a major impact in shaping the way the child acts and thinks about their health (Lazarou et al., 2008). Parents, for the most part, know that childhood obesity is a major problem and are looking to schools to assist in prevention efforts (Kesztyus et al., 2014; Wright et al., 2012). Since children spend a large portion of

their day at school while consuming roughly 19-50 percent of their daily energy, it makes sense that schools should be able to assist parents (Gaines et al., 2011).

Multiple efforts have been made to decrease the weight gain for children in schools. The first of these was the Child Nutrition and WIC Reauthorization Act in 2004 that was aimed at allowing more children access to healthy meals during school as well as requiring schools to draft a school wellness policy (Schwartz et al., 2012). These school wellness policies are used to create standards for nutrition education, physical education, standards for meals as well as competitive foods sold on campus, wellness promotion/marketing, and policy implementation standards (Serrano et al., 2007).

When drafting a school wellness policy many schools did not have an adequate template to guide development leading to policies that only included basic elements and vague language (Smith et al., 2012). This vague language is reflected by words such as “encourage” or “suggest” while strong language includes words such as “must” and “required.” This led to schools not having these policies implemented very well if at all. To date there is no research that has closely examined Oklahoma school wellness policy implementation. This lack of data is a major gap of knowledge for the Oklahoma schools. In order for schools to create better policies and have better implementation, research needs to be completed to see where they currently stand.

The purpose of this study was to determine if the strength of a school’s wellness policy was associated with implementation and what administrative and academic factors influenced SWP implementation score.

Objectives:

1. Determine the status of school wellness policies in the school sites using the WellSAT 2.0
2. Determine the extent to which school wellness policies are being implemented using the WellSAT-I
3. Determine the relationship between SWP scores and implementation scores
4. Determine if there is a relationship between school leaders' administrative and academic priorities and implementation of school wellness policies

CHAPTER II

LITERATURE REVIEW

This chapter discusses childhood overweight and obesity including the prevalence, consequences, and contributing factors. Efforts being taken to decrease childhood overweight and obesity will be examined with an emphasis on the school setting.

Prevalence and Effects of Overweight and Obesity

Current estimates state that 31.8 percent of children in the United States are overweight and 17 percent are obese (Avery et al., 2013). This 17 percent may not sound high, but it is 12.7 million children (Ogden et al., 2014). Obesity rates in youth have tripled over the past three decades and have since become one of the biggest public health concerns in the United States (Johnson & Johnson, 2015). Being considered clinically overweight means that the child's body mass index score is between the 85th and 95th percentile for their gender and age while being obese means the child is above the 95th percentile (Ogden et al., 2014).

The overall health status of children in Oklahoma is poor compared to national averages, being ranked 6th in the nation for obesity, and this is increasing yearly

(HealthyAmericans.org, 2015). This overweight and obesity problem is in both younger children and also in teenagers moving into adulthood. According to a national survey of children's health conducted in 2011, 17.4 percent of children ages 10-17 in Oklahoma were obese (CAHMI, 2011).

Consequences of Overweight and Obesity

Associated Health Problems

Both children and adults who are overweight or obese have an increased risk of developing chronic diseases and conditions such as type 2 diabetes, asthma, hypertension, osteoarthritis, atherosclerosis, some cancers, dyslipidemia, and other cardiovascular diseases (Avery et al., 2013). Being overweight or obese can also have mental and emotional effects resulting in lower production within the work force due to increased sick days, frequent fatigue, and lowered self-esteem (Lehnert et al., 2013). Overweight and obesity can be linked to nearly every health problem due to the inflammation that occurs in the body which in turn increases the amount of reactive oxidative stress, a known carcinogen (Fernandez-Sanchez et al., 2011). This extra inflammation and stress lowers the immune system as well as builds up plaque in the arteries (Fernandez-Sanchez et al., 2011). This whole sequence of events results in the various heart complications and diseases listed above. Childhood overweight and obesity creates a gateway for developing these health problems later in life. By preventing overweight and obesity among children, the amount of related health problems in the United States as a whole will be greatly decreased over time.

Cost of Overweight and Obesity

Obesity-related diseases and expenses were estimated to be 190.2 billion dollars annually and childhood obesity, specifically, was expected to cost the nation roughly 14 billion dollars annually (Lehnert et al., 2013). Those who developed obesity-related health problems use substantially more healthcare services (Lehnert et al., 2013). Those who are obese had, on average, 30 percent higher annual medical costs compared to normal weight adults (Lehnert et al., 2013). There is a strong positive association between excess weight and medical costs which increases into adulthood (Lehnert et al., 2013). In 2008, the per person direct medical cost of being overweight was \$266 while the cost of being obese was \$1,723 (Tsai et al., 2011). This shows that as a person's weight status transitions into the obese stage, major health problems begin occurring at a more rapid pace. If things stay as they are, it is predicted that by 2030 the healthcare expenditures due to obesity will increase to 16-18 percent of total healthcare costs (Tsai et al., 2011).

Link between Academic Performance and Overweight and Obesity

There have been multiple studies documenting a link between poor academic performance and being overweight or obese. Story et al in a 2006 study looked at 11,192 kindergarteners in the United States and their math and reading test scores. Overweight children had significantly lower scores compared to their healthy weight peers and the differences carried over into first grade. Similarly, Kim & So, (2013) studied 72,399 South Korean children in grades 7-12, and reported overweight/obesity had a significant negative association with academic performance for both sexes. Another study looking at

70 male middle school students in Tehran showed that the GPA and subject specific test scores were lower in obese students compared to healthy weight kids (Heshmat et al., 2014). The three studies mentioned above were in three different countries with various age groups and all three concluded with the same results confirming how important a student's health is in their education and academic performance.

Contributors to Overweight and Obesity

While there are multiple factors contributing to obesity, including genetics, it is known that decreased physical activity coupled with excess energy consumption are the primary contributing factors (Butte et al., 2007). The law of thermodynamics explains that the change in stored energy within the body in the form of adipose tissues equals energy intake minus energy expenditure (Butte et al., 2007). Because people have different metabolic rates this accumulation of body fat varies from person to person. The behavior trends that are being associated with childhood obesity include increased screen time (which reduces physical activity time) and the overconsumption of calories day after day (Heshmat et al., 2014). Over time this begins to alter the body and the child begins to gain weight and the problem starts. The percentage of obese adolescents who stay obese into adulthood is between 24-90 percent (Johnson & Johnson, 2015). This lifestyle of poor eating and unacceptable exercising habits are being instilled into children and, if continued into adulthood, will increase their risk for chronic disease and other health complications.

Differences between Rural and Urban Environments

There have been many studies conducted that report living in a rural area increases the risk to become overweight or obese compared to living in an urban area (Johnson et al., 2015). Youth living in rural areas are 1.2 times more likely to become overweight or obese compared to urban youth (Lutfiyya et al., 2007). A meta-analysis looked at ten different studies comparing the prevalence of childhood obesity in rural versus urban areas and all ten studies reported the prevalence of obesity being higher in the rural areas (Johnson et al., 2015). Some of the studies took it a step further and looked at the odds of children becoming obese in the two areas and found that children in rural areas had 26 percent greater odds of becoming obese (Johnson et al., 2015).

The reasons for this phenomenon are not conclusive. Johnson & Johnson, (2015) in a meta-analysis examined physical activity levels for both rural and urban areas and the results were inconclusive. Some rural areas had higher physical activities than urban and vice versa while some showed no difference (Johnson et al., 2015). Food accessibility plays a major role when comparing rural versus urban lifestyles. Thornton et al. in a 2012 study, compared 40 rural and 40 urban areas in Victoria, Australia to investigate differences in environmental amenities such as supermarkets, restaurants, and physical activity opportunities (YMCA, parks, playgrounds, public pools, etc.). They reported that urban areas had more access to physical activity opportunities, restaurants, and supermarkets while the rural areas only had access to supermarkets (Thornton et al., 2012). They concluded that the lower density per km² of food and physical activity amenities in rural environments may be contributing to the weight difference. The distance needed to travel in order to utilize the amenities for rural residents was not worth

the time which resulted in less use compared to urban residents where the distance was much shorter (Thornton et al., 2012).

Oklahoma consists primarily of rural counties (77 percent) compared to urban counties. Literature supports the idea that rural areas have limited access to healthy food and physical activity resources (Thornton et al., 2012). For this reason, rural schools serve as a focal point because they can offer healthy food for students as well as provide physical activity resources (Institute of Medicine, 2012).

Parental Beliefs Regarding Childhood Overweight and Obesity

While genetics may predisposition a child to obesity, it is well established that the home environment and parental behaviors play a pivotal role in either contributing to weight gain or aiding in weight loss in children (Lazarou et al., 2008). Lazarou and colleagues' study looked at the association between parental dietary beliefs and behaviors and that of their children. The researchers used data from a national cross-sectional study that included over 1,100 kids ages 9-13 years. They reported that parents' dietary beliefs and behaviors had a significant influence on the shaping of their child's dietary beliefs and behaviors. This can work two ways: healthy dietary beliefs and behaviors create a positive blueprint for the child to follow throughout adolescence and into adulthood; conversely, poor dietary beliefs and behaviors can set the child up for potential weight gain and health complications. When the parents ate poorly or did not care much about nutrition, the child mirrored those beliefs and behaviors. This helps explain why children with two obese parents are 80 percent more likely to develop obesity themselves (Kipping et al., 2012).

While the home environment and parents' dietary beliefs and behaviors seem to be a strong contributing factor to childhood obesity, parents may be looking to schools to assist with prevention efforts. In a study looking at German primary schools, over 1,500 parents were asked about their willingness-to-pay for childhood obesity prevention (Kesztyus et al., 2014). Of the parents interviewed, 97.8 percent considered childhood overweight and obesity to be a serious public health problem (Kesztyus et al., 2014). Parents who had a child that was overweight or obese were 61.4 percent more likely to be willing to pay for childhood obesity prevention than parents of normal weight children (Kesztyus et al., 2014). This study showed that parents knew that childhood overweight and obesity was a major problem and that the majority would pay to have better prevention services within the schools.

Parents know that childhood overweight and obesity is a major problem and those who have overweight/obese children typically have a higher level of concern. A study examined the effect of a family-focused coordinated school health program (CSHP) on weight gain by measuring child's starting and ending body mass index (BMI) after one year (Wright et al., 2012). The program consisted of parent/student involvement activities in the community and a 6 week *Kids Nutrition and Fitness* after-school program that lasted 90 minutes and covered various health and nutrition topics (Wright et al., 2012). The results showed that when the school and parents worked together the BMI of the children significantly decreased by an average of 2.8 points ($p=0.04$) compared to the control group (Wright et al., 2012). This study showed how important school and parent involvement was in maintaining a healthy child. Parents who took a more active role in their child's life were to imprint their behaviors onto the child with more ease. These

behaviors could positively benefit the child or negatively affect them depending on the behavior of the parents.

Efforts to Neutralize Childhood Overweight and Obesity

The Institute of Medicine (IOM) published a report in May of 2012 titled *Accelerating the Progress of Obesity Prevention* (IOM, 2012). Among the five goals recommended by the report, three were highly applicable to school settings. The first goal was making physical activity an integral and routine part of life, which corresponded with requiring children to receive physical education and physical activity opportunities daily while at school. The second was to create food and beverage environments that ensured healthy options were available and become routine choices. This included strengthening cafeteria menus with healthier foods while also decreasing the amount of á la carte and unhealthy food choices. The third called for schools to be the focal point for obesity prevention (IOM, 2012). Because 95 percent of children in the United States are enrolled in the school system, the only place where more time is spent is their home (Story et al., 2006). Schools have an important opportunity to make a major impact and instill healthy living behaviors into their students.

Child Nutrition and WIC Reauthorization Act

In 2004, the Child Nutrition Act and WIC Reauthorization Act was passed by Congress with the main purpose of allowing more children access to healthy meals while at school (Serrano et al., 2007). The act, in part, required each school that participates in the National School Lunch Program to draft a school wellness policy by June of 2006 (Schwartz et al., 2012). The United States Department of Agriculture (USDA) requires

that a school wellness policy (SWP) must contain six components to meet the minimum standards including requirements for nutrition education, physical education, meals as well as competitive foods sold on campus, wellness promotion/marketing, and policy implementation standards (Serrano et al., 2007). While the requirements addressed physical activity, nutrition was the focus. Some studies have shown that school wellness policies have been associated with increased fresh, healthy food, decreased foods of minimum nutritional value (FMNV) available for purchase, and healthier eating behaviors being practiced (Avery et al., 2013). Though the policies have potential to improve young lives and facilitate children's health, the majority of policies included weak or vague language and schools did not receive the resources needed to fully implement the policies (Schwartz et al., 2012). Belansky et al. (2009) suggested that many school districts may be hesitant to put standards in "strong writing" (words such as will, shall, are required to, etc...) because it then holds them legally accountable to follow through on what is said in the policy without having the needed resources. For example, research conducted in Virginia in 2006 showed that the schools were very ambitious about goal setting but did not have the resources in order to achieve the goals (Serrano et al., 2007). They also found that since it was a new mandate, there was not a good outline or template in place so many schools had no idea what to include besides the minimum requirements. These studies provide evidence that policies need to be written using more concrete language and that a model policy to guide school officials in writing the policies is needed.

To address the weak policy language and limited implementation, the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) strengthened the wellness policy provisions of

the previous Child Nutrition Act (Vilsack, 2012). The stronger SWP regulations required schools to monitor implementation and assessment of the policy (ChangeLab Solutions, 2012). Assessment was necessary to improve compliance and implementation. Since the strengthening of the SWP requirements, the nationwide average of school wellness policy compliance has increased from the lackluster 54 percent reported in 2008 (Gaines et al., 2011). Alabama schools recently showed a 71 percent complete policy compliance while Utah had 78 percent, and Pennsylvania had a range of 86-100 percent (Gaines et al., 2011).

School Nutrition Standards

In addition to assessing implementation of the SWP, the HHFKA called for the USDA to review and revise the school meal patterns to reflect current dietary recommendations. These included providing more fruits, vegetables, whole grains, and low-fat dairy while decreasing sodium, restricting trans-fats, and establishing age-appropriate calorie ranges (Vilsack, 2012). Another change was that the USDA issued nutrition standards for all competitive foods that were sold on campuses during meal periods (Bergman et al., 2014). This change decreased the amount of unhealthy options available at lunch and pushed students to pick healthier options instead. While the updated school nutrition standards and competitive foods regulation had potential to increase access to healthy foods there was also need to address increased opportunity for physical activity.

Comprehensive School Physical Activity Program

As mentioned, the SWP is required to include physical education. A study conducted by the Centers for Disease Control and Prevention (2015a) found that 67.8 percent of adolescents did not attend daily PE classes 5 days a week and 61.5 percent were not physically active for at least 60 minutes a day during the week. Many programs and services are used by schools to improve the health of their students. One such program is a comprehensive school physical activity program, or CSPAP. This is a multi-component approach to get children at least 60 minutes of physical activity a day consisting of opportunities during school, before/after school, PE, and through staff/family/community involvement (Centers for Disease Control and Prevention, 2013). However, there needs to be a trained director in place for the program to get started which could be why most schools currently do not have a CSPAP plan (Castelli, 2014).

Tools Used to Evaluate School Wellness Policies

In keeping with Serrano et al.'s (2007) recommendation that schools need a model policy to guide the writing of SWPs, the Rudd Center at the University of Connecticut developed a model policy to help schools create strong wellness policies with the anticipation that stronger policies would translate into higher levels of implementation. Further, they designed tools to assist schools, state agencies, and researchers in measuring the strength of policy language and implementation.

WellSAT: A Measure of Policy Quality

The Wellness School Assessment Tool (WellSAT) is an evaluation tool used to measure the quality of a school's wellness policy. Progressive development of the tool is reflected by the multiple versions including the WellSAT, WellSAT-96, and WellSAT 2.0 (Brissette et al., 2013). The most current version, WellSAT 2.0, was released in 2015 to align with the HHSFKA. Each version has the same basic structure; they are broken into sections including nutrition education and promotion, standards for meals, nutrition standards with competitive foods, PE/physical activity, wellness promotion and marketing, and implementation, evaluation, and communication. The differences are in the questions asked due to the change in requirements from the federal acts stated previously.

The WellSAT 2.0 consists of 78 policy provisions that are divided into six sections and is completed with a document review method. The six sections of the tool align with the required components of the federal regulations and include nutrition education, physical education/activity, standards for meals, standards for competitive foods sold on campus, wellness promotion/marketing, and implementation standards. Each item is compared to the SWP being reviewed and is scored with a "0," "1," or "2," where the higher score reflecting stronger language. A score of "0" means the provision is not addressed or the school does not follow the standards. A score of "1" indicates that the policy used weak language or partially fulfills the provision. A score of "2" means the policy clearly states the provision and strong language is used. Strong language includes: shall, must, require, all, have to, and other words that offer no loophole. Weak language includes the words: may, could, should, might, suggest, some, try, encourage, and other

vague words. At the end of each section two scores, strength and comprehensiveness, are calculated. The strength score is a total of all the items assigned a “2” divided by the number of section items multiplied by 100 for a percentage. The comprehensive score is a total amount of items assigned a “1” or a “2” divided by the number of section items multiplied by 100 for a percentage. Overall policy scores for comprehensiveness and strength are calculated in the same way. The comprehensive score will never be lower than the strength score and gives a good idea about the number of elements addressed by the policy. The strength score is used to show how strong the policy is because it is solely based off of items scored as “2.” A SWP can have a high comprehensive score but if their strength score is very low then it is still considered a weak policy because that means the whole policy is vague and there are probably many loop holes.

WellSAT-I: A Measure of Policy Implementation

The WellSAT-I complements the WellSAT-2.0 in that it is designed to measure the extent to which a policy is being implemented (WellSAT, 2013). Personal interviews with school key informants (principal, school nutrition director, cafeteria manager and classroom teacher, PE teacher, and designated district official) are used to conduct the assessment. There are 50 policy provisions (e.g., practices) categorized into six sections including: nutrition education and wellness promotion, standards for USDA child nutrition programs and school meals, nutrition standards for competitive and other foods and beverages, physical education/activity, and implementation and evaluation. Similar to the WellSAT-2.0, each item is scored with either a “0,” “1,” or “2.” A score of “0” indicates the practice is not in place. A score of “1” means the practice is partially in place, and a score of “2” indicates the practice is fully implemented and meets the

intended standard. At the end of each section and overall the scores are used to calculate a scope score and a mastery score. These are similar to the comprehensive and strength scores in the WellSAT-2.0. The scope score is the total number of items rated either a “1” or a “2” divided by the number of items in the section multiplied by 100 for a percentage. The mastery score is the total amount of items assigned a “2” divided by the total number of items in the section multiplied by 100 for a percentage. The last steps of the WellSAT-I include making observations of the lunch meal service (including a la carte foods and snack bars), vending machines and water fountains around the school, recess, and if possible, any before/after school care. By doing this, the researcher is able to gain insight on how the school functions and better interpret the implementation of the policy.

SWP Quality Predicts Implementation

Researchers conducted a study in Connecticut schools to investigate if strong and comprehensive school wellness policies predicted school-level implementation and practice (Schwartz et al., 2012). They surveyed the principals in 151 schools using a 2-page questionnaire that addressed the implementation of specific nutrition and physical activity related policies (Schwartz et al., 2012). A regression analysis revealed that stronger written SWPs predicted stronger policy implementation (Schwartz et al., 2012). Schools that had policies that used stronger language and scored higher also had better implementation within the school compared to those schools having policies with weaker language and lower scores. Many of the schools that used weak language in their policies did so because of their lack of necessary resources, which was seen as the major barrier in policy implementation (Schwartz et al., 2012). For example, some schools with fewer resources could not provide after-school programs, food options that are healthier than

the minimum required, and nutrition education like wealthier schools could. The authors concluded that every state should implement an ongoing system to monitor SWP strength similar to the statewide test scores that each state has annually (Schwartz et al., 2012).

Lack of Data on Oklahoma SWP Quality and Implementation

In 2008, Hildebrand and Sternlof investigated the use of Coordinated School Health (CSH) Programs in Oklahoma to identify the extent to which schools were using the CSH model and differences in academic performance. The CSH model, recently expanded into the “Whole School, Whole Community, Whole Child,” is a multi-faceted approach to building a healthy school environment with the aim of instilling lifelong healthier behaviors and improving academic performance (Centers for Disease Control and Prevention, 2015b). Study sites for the Hildebrand and Sternlof study included four elementary schools using the model and four control elementary schools. The School Health Index tool (Centers for Disease Control and Prevention, 2015c) was used to evaluate implementation of CSH and school report cards published by the Oklahoma State Department of Education were used to assess academic performance. The researchers reported that schools implementing the model had greater increases in Academic Performance Index scores over a five-year period than schools not using the model. The study did not include a review of the school wellness policies in part due to the lack of standardized tools. While these tools are now available, they have not been used to assess the comprehensiveness or strength of school policies in Oklahoma or the extent to which the policies are being implemented. Further, there is little known about the SWPs in Oklahoma, especially in rural environments, the extent to which they are implemented or other factors that affect implementation.

CHAPTER III

METHODS

The purposes of this study were to determine if the strength of a school's wellness policy had an effect on the implementation of wellness policies in the school and what administrative factors affected the school's implementation. The following section describes the protocol for conducting the study including the participants, grader reliability testing procedure, collection methods, study research questions, and also the case design.

Participants

Elementary schools in rural areas of Oklahoma were recruited for this study. The 2010 US Census Urban and Rural Classification was used to verify schools were in rural areas (US Census Bureau, 2010). Schools were recruited through the Oklahoma Department of Education Child Nutrition Programs and the Schools for Healthy Lifestyles. A copy of the recruitment flyer and agreement to participate are provided in Appendix A. Schools for Healthy Lifestyles (SHL) is a not-for-profit community based health program in Oklahoma. Fifteen schools agreed to participate representing 12

different counties located throughout central and eastern Oklahoma. Two sets of schools were in the same district with one housing upper elementary grades and the other housing lower elementary grades. The two sites had separate administration and teaching staffs. The schools received a \$500.00 stipend for participating in the study that was directly deposited into their school account via their federal identification number.

Data Collection

The research protocol was submitted to the OSU-Stillwater IRB for review. The Board determined the project did not qualify as human subject research and was not subject to oversight. A copy of the email from the OSU IRB is provided in Appendix B.

The school wellness policies of the schools participating were collected and analyzed by trained graduate research assistants to assure scoring reliability. The policies were up to date at the time this study began (Spring 2015). Each school's wellness policy was graded with the WellSAT 2.0 grading tool using the Rudd Center's protocol (Appendix C). As described in the Literature Review of this thesis each item was given a score of a "0", "1", or "2" and recorded into the database. Comprehensiveness and strength scores were then calculated using the item scores. The comprehensiveness score was calculated by counting the number of items with a score of "1" or "2," dividing by the total number of items and multiplying by 100. The strength score was calculated by counting the number of items with a score of "2," dividing by the total number of items and multiplying by 100. Both scores were recorded into SmartSheet (a website database for storing data) and then exported to IBM Statistical Package for the Social Science (SPSS) v23 which is a software program similar to excel but can perform various statistical analysis.

Schools were then contacted to schedule a date for a trained research assistant to visit the school site and assess implementation of the policies using the WellSAT-I protocol (Appendix D). The WellSAT-I was conducted in six schools during the Spring of 2015; the remaining nine schools were assessed during the Fall of 2015. Interviews were conducted with the principal, a classroom teacher, the PE teacher, the food service director, the cafeteria manager, and a district SWP official (in most cases this was the superintendent) using the WellSAT-I. The graduate research assistant who conducted the interviews scored each applicable WellSAT-I item with a score of “0”, “1”, or “2” based on the informant’s response. To confirm responses, the researcher also made selected observations on each campus including monitoring a lunch period and inspecting the hallways for vending machines or other methods of selling food to students. Data was recorded into IBM SPSS v23. The scope score was calculated by counting the number of items with a “1” or “2” score, dividing by the number of total items and multiplying by 100. The mastery score was calculated by counting the number of items with a “2” score, dividing by the number of total items and multiplying by 100.

At the end of each interview demographic data was collected for each key informant including gender and number of years with the school/district.

A survey developed by the Rudd Center was used to assess the principals’ academic and administrative priorities (Appendix E). The variables included school safety and violence, school climate and culture, curriculum and instruction, physical activity and PE, professional development, mental health, school nutrition, district and state test scores, and budget and finance. The school leader was asked to prioritize the items 1 to 9 with a “1” being highest priority and a “9” being the least. To ease

interpretation of statistical analyses the scale was reversed during data entry with 9 being the highest priority and 1 being the lowest priority.

Other documents obtained during the assessment included the school's menu for the current month, the school schedule, and if possible their SWP report and CSPAP plan. The intent of collecting the documents was to support responses from the key informants.

Grader Reliability of WellSAT 2.0

Four graduate research assistants scored the comprehensiveness and strength of the school wellness policies. Scoring reliability was established prior to the analysis of the school wellness policies using the WellSAT 2.0. Each GRA received the same 5 to 10 policies to score. The scores from each policy for each student were gathered and the mean section score, intraclass correlation, and confidence intervals were examined. Reliability coefficients above 0.60 were considered acceptable, and if there are any sections that were not above 0.60, the group did another round of policy grading. For the grader reliability of the WellSAT 2.0 the kappa for 468 items and 6 policies was 0.67. Many researchers consider the threshold for interrater reliability to be over 0.60 (Cicchetti & Feinstein, 1990).

Grader Reliability of WellSAT-I

Researchers were trained to use the WellSAT-I by Margaret Read, of the Rudd Center at the University of Connecticut. Each section item of the WellSAT-I was reviewed and the proper way to grade each question was clarified. To practice using the WellSAT-I, mock interviews with individuals in positions similar to the required school informants were interviewed. The interviews were video recorded and loaded onto DropBox (file sharing website). Individually, each researcher watched the videos and scored responses using the WellSAT-I tool. Following this, there was a meeting where the researchers discussed and shared the scores they calculated. A few questions were altered or removed based on the information gathered from the mock interviews. Researchers also agreed to exclude questions that pertained only to the high school settings.

Data Analysis

The policy, implementation, and principal priority data were analyzed using IBM SPSS v23. Descriptive statistics were used to calculate mean scores for the WellSAT 2.0 comprehensiveness and strength, WellSAT-I scope and mastery, and principals' priority rankings for academic and administrative responsibilities. Spearman's rank order correlation was used to determine if there was a relationship between 1) wellness policy strength and implementation mastery (items scored as "2") and 2) policy comprehensiveness and implementation scope (items scored as a "1" or "2"). The Spearman's rank order correlation test was also used to analyze each related section of the WellSAT 2.0 and WellSAT-I. These sections are nutrition education (NEPE), standards for meals (SM), nutrition standards (NS), physical education and physical

activity (PEPA), wellness promotion and marketing (WPM), and implementation, evaluation and communication (IEC).

The Spearman's rank order correlation was used to investigate the relationship between school principals' priorities and SWP implementation as measured by WellSAT-I scope and mastery scores. The principals' priority items included school safety and violence, school climate and culture, curriculum and instruction, physical activity and PE, professional development, mental health, school nutrition, district and state test scores, and budget and finances.

The correlation coefficient values (r) were interpreted using $r=0.10$ to 0.29 as small; $r=0.30$ to 0.49 as medium; and $r=0.50$ to 1.0 as large (Cohen, 1988). Significance levels were set at $p<0.05$.

CHAPTER IV

FINDINGS

The findings reflect data collected using the WellSAT 2.0, WellSAT-I and the School Principal Priority Survey. Spearman's rank order correlation analyses were used to investigate associations between policy quality and implementation; and school principal priorities and SWP implementation scores.

Demographics

Table 4.1 summarizes the demographic characteristics of the 15 schools participating in the study. The mean enrollment was 381 students with enrollment ranging from 179 to 641 students. All but one school had free and reduced-price meal eligibility rates between 52 and 92 percent, the exception was Okarche that had a rate of 28 percent. The mean percent free and reduced-price rate was 69 percent. The grade configuration of the schools varied. The majority of schools were Pre K through 5th grade; however, there were 3 schools that housed Pre K through 8th grade. Two school districts had upper and lower elementary schools (Pre K through 1st and 2nd through 4th grade) that functioned independently to each other. The majority of schools were

independent districts (accredited for grades K through 12) and one was a dependent schools district (accredited for grades K through 8).

Table 4.1. Demographic Data of Participating Schools

Elementary Schools	Enrollment	% Free and Reduced ^a	Classification	Grades
Atoka	469	85.93	Independent	Pre K – 5 th
Calera	526	71.76	Independent	Pre K – 6 th
Chickasha Upper ^b	536	91.42	Independent	2nd – 4 th
Chickasha Lower ^c	555	91.53	Independent	Pre K – 1 st
Cushing Upper	434	64.51	Independent	2nd – 4 th
Cushing Lower	276	66.30	Independent	Pre K – 1 st
Eufaula	588	74.66	Independent	Pre K – 5 th
Little Axe	641	72.23	Independent	Pre K – 5 th
Lomega	204	75.49	Independent	Pre K – 8 th
Morrison	335	60.30	Independent	Pre K – 5 th
Norwood	184	89.67	Dependent	Pre K – 8 th
Okarche	179	27.93	Independent	Pre K – 6 th
Okeene	193	57.51	Independent	Pre K – 6 th
Oklahoma Union	304	58.22	Independent	Pre K – 5 th
Sterling	295	51.86	Independent	Pre K – 8 th

^aSource: OSDE Low income school report (2015)

^bChickasha Upper elementary school goes by the name Grand Avenue Elementary

^cChickasha Lower elementary goes by the name Bill Wallace Early Childhood Center.

School Wellness Policy Quality Scores

School wellness policies were evaluated using the WellSAT 2.0 assessment tool and resulted in two scores (comprehensiveness score and a strength score) for the overall policy and for each of the seven sections. The scores are a percentage of the total number of scale items. The comprehensiveness score reflects the percent of items scored (“1” and “2”) while the strength score reflects only the items that were scored a “2”. Table 4.2 provides a summary of average overall scores and section scores.

As expected, the overall policy comprehensiveness score (53.3 percent) was higher than strength score (27.3 percent). Review of the section scores revealed the physical education and physical activity (PEPA) area was the lowest compared to the other section averages with a mean comprehensiveness score of 32.8 percent and a mean strength score of 14.1 percent. The next lowest section was implementation, evaluation and communication (IEC) with a mean comprehensiveness score of 40.6 percent and mean strength score of 21.2 percent. The section with the highest mean score was nutrition education (NEPE) with a comprehensiveness score of 86.4 percent and a strength score of 51.4 percent. Nutrition standards (NS) had the largest difference between comprehensiveness and strength scores (65.8 and 22.1 percent, respectively). This indicates that the nutrition standards that were included in the policy used weak language and very little strong language. Appendix F provides WellSAT scores for individual school sites.

School Wellness Policy Implementation Scores

School wellness policy implementation was evaluated using the WellSAT-I assessment tool and resulted in two scores for the overall policy and each of the sections. As with the WellSAT-2.0, the scores are a percentage of the number of items in the scale. The scope score reflects the number of items that were implemented either partially or in full. The mastery score reflects the number of items that were fully implemented.

The findings are presented in Table 4.2. The mean scope score was 79.5 percent and mean mastery score was (equivalent to policy strength) 60.7 percent. The IEC section had a mean of 75.4 percent scope and a mean 43.1 percent mastery score reflecting the largest difference between scope and mastery. This gap between scope and mastery scores show that schools were only partially implementing 75 percent of the items in the IEC section and fully implementing 43 percent. The nutrition standards (NS) section had the highest mean scope score (91.6 percent) and mastery score (72.4 percent). The PEPA section had the lowest scope score with 73.3 percent and a 56 percent mean mastery score. PEPA had the lowest scope score and IEC had the lowest mastery score (43.1 percent) based on the mean scores.

Table 4.2. Policy Quality (WellSAT-2.0) and Implementation (WellSAT-I) Mean Scores

Overall Policy and Sections	Policy Quality		Policy Implementation	
	WellSAT-2.0 Comp (±sd)	WellSAT-2.0 Strength (±sd)	WellSAT-I Scope (±sd)	WellSAT-I Mastery (±sd)
Total Policy (SD)	53.3 (15.9)	27.3 (11.2)	79.5 (8.7)	60.7 (9.8)
NEPE ^a (SD)	86.4 (25.8)	51.4 (41.1)	80.0 (26.2)	60.0 (27.3)
SM ^b (SD)	60.5 (20.4)	40.4 (17.6)	82.9 (7.1)	71.1 (9.5)
NS ^c (SD)	65.8 (17.8)	22.1 (26.8)	91.6 (12.3)	72.4 (23.1)
PEPA ^d (SD)	32.8 (14.6)	14.1 (11.8)	73.3 (12.0)	56.0 (11.5)
WPM ^e (SD)	60.9 (25.6)	32.9 (22.3)	79.7 (17.9)	63.3 (20.1)
IEC ^f (SD)	40.6 (20.6)	21.2 (22.2)	75.4 (11.5)	43.1 (22.2)

^aNutrition Education

^bStandards for Meals

^cNutrition Standards

^dPhysical Education and Activity

^eWellness Promotion and Marketing

^fImplementation, Evaluation, and Communication

Association between Policy Quality and Implementation

Policy quality comprehensiveness is equivalent to implementation scope; while policy strength is equivalent to implementation mastery. Spearman’s rank order correlation was used to conduct 14 tests to determine if an association existed between the corresponding variables overall and for each section (NEPE, SM, NS, PEPA, WPM, IEC). Results are presented in Table 4.3.

Total policy comprehensiveness and implementation scope r-values reflected a medium positive association (r=0.43; p=0.12). The associations between policy

comprehensiveness and implementation scope for each section varied. There was a strong association ($r = 0.53$, $p=0.04$) that reached the significance level between the policy comprehensiveness and implementation scope for PEPA. There was a medium association between the policy comprehensiveness and implementation scope for IEC scores ($r = 0.34$). Four sections (NEPE, SM, NS, WPM) had small associations ($r=0.24$, 0.28 , 0.12 , 0.14 , respectively).

Total policy quality strength and implementation mastery resulted in a strong and positive association which reached a significant level ($r = 0.65$, $p=0.01$). The section correlation tests revealed no significant correlations and small to medium associations. Small associations were observed for SM and IEC ($r = 0.25$ and 0.28 , respectively), while medium associations were observed for PEPA and WPM ($r = 0.31$ and 0.39 , respectively). Scores in two sections (NEPE and NS) were not associated ($r = 0.07$ and 0.10 , respectively).

Table 4.3. Associations between Policy and Implementation Scores		
Overall Policy and Sections	WellSAT-2.0 vs	WellSAT-2.0 vs
	WellSAT-I	WellSAT-I
	Comprehensive/Scope	Strength/Mastery
	R-value (p-value)	R-value (p-value)
	n = 15	n = 15
Total	0.43 (p=0.12)	0.65 (p=0.01) ^a
Nutrition Education (NEPE)	0.24 (p=0.38)	0.07 (p=0.82)
Standards for Meals (SM)	0.28 (p=0.32)	0.25 (p=0.36)
Nutrition Standards (NS)	0.12 (p=0.66)	0.10 (p=0.73)
Physical Education and Activity (PEPA)	0.53 (p=0.04) ^b	0.31 (p=0.27)
Wellness Promotion and Marketing (WPM)	0.14 (p=0.61)	0.39 (p=0.16)
Implementation, Evaluation, and Communication (IEC)	0.34 (p=0.22)	0.28 (p=0.31)

^aIndicates significance $p < 0.01$

^bIndicates significance $p < 0.05$

School Principals' Priorities and SWP Implementation

Nine different academic and administrative responsibilities that fall under the role of the school site principal were prioritized by the principals using the School Principal Survey (“1” = highest priority and “9” = lowest priority, reversed for analyses). The responsibilities included professional development, curriculum and instruction, mental health, school nutrition, district and state test scores, physical education and activity, budget and finances, school climate and culture, and school safety and violence. A summary of the rank order by school site is provided in Table 4.4 and mean scores are presented in Figure 4.1. The top three priorities were school safety and violence ($\bar{x}=7.9$),

curriculum and instruction ($\bar{x}=7.3$), and school climate and culture ($\bar{x}=6.8$). The lowest priority item was mental health ($\bar{x}=2.9$).

Table 4.4. Rankings of Principal Academic and Administrative Priority Items by School^a

Schools	Professional Development	Curriculum & Instruction	Mental Health	School Nutrition	District & State Test Scores	Physical Activity & PE	Budget & Finances	School Climate & Culture	School Safety & Violence
School A	4	5	7	3	1	6	2	8	9
School B	1	9	2	5	6	3	4	8	7
School C	4	7	3	5	1	6	2	8	9
School D	6	8	3	4	2	5	1	7	9
School E	4	7	1	2	6	3	5	9	8
School F	3	8	4	7	1	5	2	9	6
School G	1	9	4	5	6	3	2	7	8
School H	2	8	1	5	9	4	6	3	7
School I	2	5	1	3	9	4	8	6	7
School J	3	8	1	2	6	5	9	4	7
School K	5	7	1	4	6	2	9	3	8
School L	3	8	2	5	4	6	1	7	9
School M	6	8	2	3	5	4	1	7	9
School N	4	5	6	2	1	3	7	8	9
School O	2	7	5	4	1	3	9	8	6
Mean Rankings (±sd)	3.3 (1.6)	7.3 (1.3)	2.9 (2.0)	3.9 (1.4)	4.3 (2.9)	4.1 (1.3)	4.5 (3.2)	6.8 (2.0)	7.9 (1.1)

^aRank 1= lowest priority; 9= highest priority

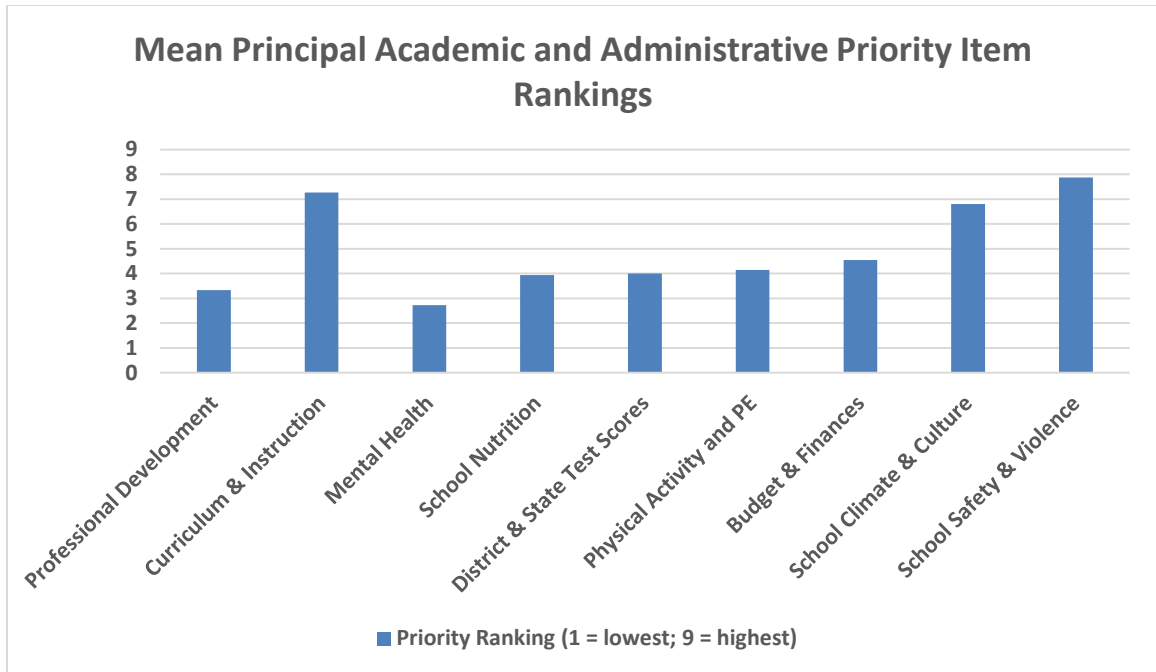


Figure 4.1. Mean Principal Academic and Administrative Priority Item Rankings

Spearman’s ranked order correlation was used to investigate associations between WellSAT-I scope and mastery scores and the principal prioritized responsibilities. The findings are summarized in Table 4.5.

School safety and violence had a medium, positive association with scope ($r=0.34$, $p=0.22$) and a large, positive association that reached significance with implementation mastery ($r=0.55$, $p=0.03$). None of the other correlations between implementation score and principal priorities were significant. Professional development and physical activity and education had small, positive associations with implementation scope and mastery ($r=0.26$, $p=0.35$ and $r=0.25$, $p=0.36$, respectively). In contrast, school nutrition had small, negative associations with implementation scope and mastery; while budget and finance had medium negative associations with scope and mastery.

Table 4.5. Associations between Principal Academic and Administrative Priority Rankings and Implementation Scores

Priority Items	WellSAT-I Scope	WellSAT-I Mastery
	R value (p-value)	R value (p-value)
	n = 15	n = 15
Professional Development	0.26 (p=0.35)	0.12 (p=0.68)
Curriculum and Instruction	-0.16 (p=0.57)	0.07 (p=0.81)
Mental Health	0.06 (p=0.83)	0.15 (p=0.60)
School Nutrition	-0.18 (p=0.53)	-0.12 (p=0.67)
District and State Test Scores	-0.06 (p=0.83)	-0.04 (p=0.88)
Physical Activity and PE	0.25 (p=0.36)	0.40 (p=0.14)
Budget and Finances	-0.44 (p=0.10)	-0.46 (p=0.09)
School Climate and Culture	0.11 (p=0.69)	-0.26 (p=0.35)
School Safety and Violence	0.34 (p=0.22)	0.55 (p=0.03) ^a

^aIndicates significance $p < 0.05$

CHAPTER V

DISCUSSION

The study assessed SWP quality, the extent to which policies were implemented, and the associations between the two. In addition, nine academic and administrative responsibilities prioritized by school principals were studied to investigate associations with SWP implementation.

School Wellness Policy Quality

Policy quality in rural Oklahoma elementary schools was similar to a nationally representative study of SWP conducted in 2011 (Chriqui et al., 2013). In both studies, the comprehensive score was around 50 percent (53 and 48 percent, respectively) and the strength score was 28 percent (27 and 28 percent, respectively). These scores reflect that approximately half of the recommended policy elements were included in the schools' policies and that only slightly more than one-quarter of the policy provisions were definitely required. This comparison is made with caution in that the national study was conducted using the original version of the WellSAT and the Oklahoma study was conducted 5 years later using the WellSAT 2. This updated version reflects the Healthy, Hunger-Free Kids Act by adding requirements for updated school meal and nutrition

standards and public participation, transparency and implementation. As a result, the WellSAT 2.0 website cautions that scores using the updated tool will most likely be lower than those using the original tool due to the higher expectations (WellSAT, 2013).

The strongest section of rural Oklahoma elementary schools' SWPs was nutrition education with a mean comprehensive and strength scores of 86.4 percent and 51.4 percent, respectively. Chriqui et al. in a 2013 study also found the nutrition education section was the most comprehensively addressed component of the SWPs. Overall, the Oklahoma scores reflected that a majority of recommended policy provisions were included in the policies (86 percent), but only about half of the provisions (51 percent) were stated with strong, specific language. For example, a policy may have stated that nutrition education would be taught but did not specify the lessons were behavior focused. On the other hand, the implementation study resulted in higher mastery scores compared to strength scores, indicating more of the policy provisions were being fully practiced than what the policy reflected. For example, while policies frequently did not specify that nutrition education were behavior focused, classroom teachers reported that nutrition lessons included practice in reading nutrition facts labels.

The rural Oklahoma elementary school policies tended to include nutrition standards for foods sold outside the school meal program (comprehensive score of 66 percent), but were addressed using vague and weak language (strength score of 22 percent). The comprehensive score was higher than that reported by Chriqui et al. (2013), but reflected a similar strength score. The difference between studies in comprehensive scores possibly reflects the implementation of the USDA's competitive food regulations in 2014. These regulations, referred to as Smart Snacks, target foods and beverages sold

outside the school meal program. The foods and beverages must be a whole grain-rich product, a fruit, a vegetable, or have a fruit, vegetable or dairy product as the first ingredient. They must also contain at least 10 percent of the Daily Value (DV) of a nutrient of public concern (such as calcium, potassium, fiber, or vitamin D) and fall within limits for calories, added sugar, sodium and fat (School Nutrition Association, 2016). The Smart Snack regulation does not address food and beverages served at class parties, other school celebrations, after-school programs, etc. These exclusions are the focus of the WellSAT 2.0 policy nutrition standard provisions. During the implementation study interviews with teachers and principals indicated that schools had varying practices regarding Smart Snacks, possibly due to the vague policy language.

Considering that all the schools in this study participated in the federal Child Nutrition Program, it is interesting to note that SWPs included about 60 percent of the recommended policy provisions for school meals. The majority of the WellSAT 2.0 policy provisions address standards exceeding the minimum USDA meal requirements and best practices that are not included in the federal regulations, such as strategies to increase meal participation, specifying 20 minutes to eat lunch, and providing nutrition information for foods served as part of the school meal. Similar to Chriqui et al.'s conclusion, rural Oklahoma elementary SWPs mainly addressed federal meal guidelines.

In this study, the lowest policy section was physical education and physical activity (PEPA). The policies included only 32 percent of the WellSAT 2.0 provisions and only 14 percent were stated with specific and strong language. This suggests that Oklahoma is behind in the physical activity and education category despite state wide efforts to address the issue. For example, one of the WellSAT 2.0 policy provisions is

that elementary schools provide 150 minutes of physical education instruction per week. Senate bill 312, which was effective November of 2005, requires a minimum of 60 minutes of physical exercise or exercise programs per week for all grades within elementary schools (Oklahoma State Department of Education, 2015). Interviews conducted at the elementary school sites during the policy implementation assessment phase of this study revealed that the majority of schools scheduled the minimum required 60 minutes of PE per week. Another policy provision is that during physical education classes the teacher-student ratio be similar to other classes. During the interviews the PE teachers described large PE class sizes of 30-50 students per teacher while classroom size is limited to approximately 20 students. Senate bill 1186 required an additional 60 minutes of physical activity per week for students which can include nutrition education, fitness breaks, and recess (Oklahoma SDE, 2015). This extra physical activity requirement is beneficial in theory. However, observations from school visits revealed that a majority of students were not being moderately active during the daily 15 to 20-minute recess period. A major emphasis on revising Oklahoma legislation and the PEPA section within the school wellness policy would contribute to even stronger implementation of physical activity and education components at the school sites. Addition of more PE teachers to allow more PE time per student per week along with the adoption of a Comprehensive School Physical Activity Program (CSPAP) plan would also benefit the student's health as shown by success in Boston Public Schools (Carter, 2012).

Another section with low policy quality was implementation, evaluation and communication (IEC), with 60 percent of the provisions not included and of those that

were only 21 percent were stated using clear, strong language. In keeping with information on the WellSAT 2.0 website the scores were lower than the national study conducted by Chriqui et al. (2013) using the WellSAT. This is likely due to the addition of provisions required by the Healthy, Hunger Free Kids Act which strengthened the SWP by requiring designation of a school official to assure policies are implemented, input from school stakeholders in reviewing and revising policy and communication of policy progress to school stakeholders (USDA, 2014). During the implementation study many principals served as the designated official thus adding another layer of responsibility to the position. This along with the weak policy content may explain why less than half (41 percent) of the section's provisions were implemented to the fullest extent.

WellSAT-I Scores

The mean implementation scores resulting from this study indicate schools are at least partially implementing about 80 percent of the recommended policy provisions and are fully implementing 61 percent of the policy provisions. When compared to the policy quality scores, schools are practicing more provisions than what are indicated by their policy. An explanation for this may be the difference in how policy quality and implementation were scored. Policy quality was assessed by trained research assistants using the WellSAT 2.0. Implementation was also assessed by trained research assistants using the WellSAT-I which consisted of personal interviews with key school personnel and site-visit observations. This difference in policy content and implementation was observed in a statewide obesity prevention program conducted from 2011-2014 (Fink et al., 2015). Policy content and implementation scores were assessed at baseline and at the

end of program across four community sectors including school districts. Consistently, the policy content did not reflect the extent to which health-promoting practices were being implemented.

The WellSAT-I assessment tool used in this study is in the pilot phase of development under the leadership of the Rudd Center for Food Policy and Obesity. Therefore, there is no national data to determine how rural Oklahoma elementary schools compare to other states concerning implementation.

Association between Policy Quality and Policy Implementation

The comprehensive and strength scores in both this study and Chriqui et al.'s national study indicate that policies contained vague or weak language for approximately three-quarters of the WellSAT policy provisions. After assessing policy language and implementation in 151 Connecticut schools Schwartz et al. (2012) concluded that that higher quality policies resulted in a higher level of implementation. Likewise, this study demonstrated that stronger policy language was associated with more extensive implementation based on the significant association between total policy scores and implementation scores. In other words, when policy language is weak or vague (i.e.- may, encourage, if possible) policies are less likely to be implemented (Schwartz et al., 2012).

Due to the large amount of time youth spend at school, it is important that the environment support healthy behaviors. Providing rural elementary schools with model policy language may show promise in higher levels of implementation. This is important in that youth living in rural areas are more likely than youth in urban areas to be

overweight and obese and thus, more likely to develop chronic diseases and have lower academic performance (Johnson et al., 2015; Avery et al., 2013; Story et al., 2006).

The policy comprehensive score for PEPA section was associated with the PEPA implementation scope score. This suggests that schools that include more PEPA provisions in their policy implement more PEPA practices. Considering the low PEPA scores in this study, this finding suggest that including more policy provisions could improve implementation thus creating opportunity to increase students' activity levels. One of the promising provisions is the addition of the CSPAP in that it supports not only physical activity during the school day but also before/after school programs and staff/family/community involvement, all of which are provisions of the WellSAT 2.0. A barrier for rural Oklahoma elementary schools to include this provision in the SWP may be limited funding for the required trained director (Castelli et al., 2014).

Association between School Principals' Priorities and SWP Implementation

Schools are expected to provide a variety of services that are associated with academic outcomes. The time, staff, and financial resources needed to meet the responsibilities often result in conflicting priorities. As part of this study, school principals were asked to prioritize nine academic and administrative responsibilities. The highest priority of principals was school safety and violence, followed closely by curriculum/instruction. Principal ratings of school safety and violence were significantly associated with SWP implementation. Brand et al., (2003) found socioemotional well-being of students is a dimension of a healthy school climate, which contributes to better academic performance and reduced health-risk behaviors (Patton et al., 2006). To create

the healthy school climate and higher academic achievement, it is plausible that principals who value a safe school environment also value creating an environment that supports healthy behaviors.

As would be expected, budget and finances had a moderate negative association that trended towards significance, with SWP implementation. This suggests that principals who spend a great deal of time addressing budget and financial issues have less time to prioritize school wellness implementation as well as less money to implement their policies. This is plausible because one of the biggest challenges for policy implementation is lack of monetary resources (Budd et al., 2012).

Conclusions

With the high childhood obesity rates in America more emphasis and importance should be placed on schools to help combat this epidemic. This is especially important in small, rural communities where schools are less likely to have SWPs that support healthy eating and physical activity (Nanney et al., 2013). This study demonstrated that elementary schools in rural areas of Oklahoma have moderately comprehensive policies that meet minimum federal requirements but lack best-practice provisions and the strong language associated with full implementation. In contrast, school principals that prioritized safe school environments led schools with more extensive implementation of SWP provisions.

Recommendations to Strengthen Policy Quality and Implementation

Many of the policies assessed in this study used a similar template, which included only the basic minimum requirements with weak language. In contrast, schools reported implementing more of the provisions than what was described in the policy. Providing school wellness self-assessment training to rural schools using a tool such as the WellSAT-I or the CDC's School Health Index (Centers for Disease Control and Prevention, 2015c) would allow schools the opportunity to increase awareness of current local practices in comparison to evidence-based best practices. To assure that these practices are reflected in the SWP it is essential that a model policy template include all required items and are stated with clear and strong language. This is consistent with Serrano et al.'s (2007) recommendation to facilitate each school district in revising the local policy to meet local needs and practices. The stronger language would communicate to persons responsible for implementing the policy (teachers, parents, etc.) that the provisions are required rather than suggested, as well as providing administrators with the authority to enforce the policy.

At the state level more emphasis should be given to funding physical education and activity including employment of qualified physical education teachers so that student-teacher ratios are similar to other classrooms. Another option is for state agencies and universities to partner and provide CSPAP training to school district physical education teachers so that schools can begin implementing the program and better address SWP quality and implementation.

Strengths and Limitations of the Study

This is the first known study that has assessed both policy quality and policy implementation in rural schools, thus providing opportunity to compare differences between urban schools' SWPs and rural schools' SWPs. The WellSAT 2.0 allowed researchers to compare policies to the HHFKA provisions. Use of the WellSAT-I provides important information to the researchers developing the new implementation assessment tool. Due to the newness of the WellSAT 2.0 and the pilot version of the WellSAT-I this limited the authors in comparing findings to other peer-reviewed publications.

The WellSAT-I used a mixed methods approach consisting of interviews with multiple key school personnel with responses coded by the researcher into a numerical system, as well as observations of the school site. When different key informants provided conflicting information that could not be confirmed through direct observation the provision was scored a 1 rather than a 2. This mixed-method approach provides more reliable and valid data than a purely qualitative study due to the potential for socially biased responses. Another limitation is that all situations could not always be observed; for example, foods served during school parties. Future studies should ask similar questions to multiple key informants and continue with observations to the fullest extent possible.

Another limitation was the small sample size of 15 elementary schools that participated in this study. The small number of study sites limited the strength of statistical analysis and ability to establish correlations. Further, many of the schools were

recruited from a sample of Oklahoma schools participating in a school-wide health education program. As such, they may have scored higher on implementation of policy provisions compared to schools not participating in the program. In future studies, larger sample of randomly selected schools should be used.

Recommendations Regarding the Pilot WellSAT-I

This study was conducted as part of a pilot implementation of the WellSAT-I assessment tool. The following are lessons learned and recommendations from experience using the assessment tool in 15 rural Oklahoma elementary schools.

- Some questions in the pilot WellSAT-I are asked to informants that are not as well equipped to answer compared to other informants. Examples of this were:
 - PEPA14 which asks, “Is there before and after school physical activity promoted for all grades?” This question should be asked to the PE teacher instead of the principal because they are typically in charge of before/after school physical activity programs as well as their promotion around the school.
 - PEPA7 which asks, “What are the qualifications for a PE teacher?” should be asked to the principal instead of the PE teacher. The principal is more knowledgeable about the hiring of teachers and knows the requirements better than the PE teachers who were asked and often answered that they did not know the job qualifications.

- Key informants such as the teachers and cafeteria managers should also be asked more questions than the 3-4 questions they are currently asked.
 - A question that should be asked to teachers is, “What is the typical teacher to student ratio for the majority of classes?” This answer will help immensely in calculating PEPA6, which deals with PE student to teacher ratios.
 - It would also be advisable to ask some repeat questions to the classroom teachers as a validity checker with some of the principal questions. The principal knows if there are rules but the teacher knows if they are actually being implemented. WPM1 through WPM7 fall under this category because they are dealing with staff rules. These questions include modeling healthy behaviors, food as rewards, withholding physical activity as punishment, and other similar rules.
 - Questions SM1 through SM4 and SM6 should be asked of the cafeteria manager as well as the food service director in order to have more validity. These questions deal with the meal standards of breakfast and lunch as well as promoting cafeteria meals to students.
 - Interviewing only one classroom teacher also could be expanded to possibly a classroom teacher from each grade at the school, that way the scores could be averaged and the data would be more reliable.

- Some questions should be combined or be made into a follow-up question so that the informant does not think that there are repeated questions in the WellSAT-I.
 - WPM9, which asks, “Are specific strategies to encourage physical activity outside of PE promoted at the school?” could be combined with PEPA14, which asks, “Is there before and after school physical activity promoted for all grades?” This question should be asked to the PE teacher instead of the principal because they typically would be the ones in charge of promoting physical activity in the school.
 - PEPA8 can be combined with PEPA19, which asks if physical activity training is provided for all teachers, and PEPA8 asks if relevant ongoing training is offered yearly for PE teachers. PEPA8 should be a follow-up question to PEPA19 and both should be asked to the principal instead of PEPA19 being asked to the PE teacher.
 - The three questions dealing with substitutions, waivers, and exemptions (PEPA9, 10, and 11) need to be far more specific because most PE teachers did not know a difference between the three. They usually responded with the same answer for all three. These should be combined into one question or the differences should be better defined.
 - SM14 which deals with water being available during meals can be combined with NS10 which asks if water is available throughout the school day. This question could also be asked to the principal instead of the food service director.

- Questions need to contain clearer criteria for a “1” or “2” because the WellSAT-I scores were much higher than all the WellSAT 2.0 scores.
 - PEPA2 which asks if the PE curriculum follows the national and/or state PE standards is a question that was answered a “2” every time because no one is going to admit they are not following the state standards to someone interviewing them. This question needs to be worded differently or can be assumed after asking to see the programs they use.
 - PEPA19 which asks about physical activity training for teachers is pretty vague currently. Most of the principals were confused by the wording and wanted an explanation on what the question meant. What actually is the physical activity training that classroom teachers need to be given? Or does this question just mean PE teachers?
 - SM2 was a question that was never answered below a “2” because all it asks is if the cafeteria meals provide students with all the required food components (whole grains, low-fat dairy, fruits, vegetables, and lean protein). Asking for the nutrition information instead would yield more reliable data.
 - SM10 is a question that makes the researcher have to decide if the cafeteria is adequate for the students or not. Stricter criteria is needed for this question so that there is no bias in the answering.

- Some questions should be removed or revised.
 - The wording of family and community involvement questions was hard for many key informants to understand.
 - SM3 which asks if the nutrition standards for breakfast and lunch are stricter than the USDA meal standards should not punish schools if they are not stricter. This question feels more like a bonus question. Very few schools said they were stricter than the USDA standards and it does not make sense why their scores should be lower because they are at the USDA standard.
 - PEPA18's wording should be revised. In the draft document it reads, "What provisions for family and community engagement in physical activity opportunities at the school?" PEPA18 of the WellSAT 2.0 only asks if there is family/community engagement in physical activity. A better way to word this question could be, "In what ways does your school engage families and the community in physical activity activities?" Most superintendents did not know what the question was asking with the original way it is stated.

REFERENCES

- Avery, G., Johnson, T., Cousins, M., Hamilton, B. (2013). The school wellness nurse: a model for bridging gaps in school wellness programs. *Pediatric Nurse*, 39(1), 13-17.
- Belansky, E.S., Cutforth, N., Delong, E. (2009). Early impact of the federally mandated local wellness policy on physical activity in rural, low-income elementary schools in Colorado. *Journal of Public Health Policy*, 30, S141-S160.
- Bergman, E., Englund, T., Cashman, L., Watkins, T., Weigt Taylor, K. (2014). The effects of the Healthy Hunger-Free Kids Act on school lunch. *Journal of the Academy of Nutrition & Dietetics*. 114(9), supp A60.
- Brand, S., Felner, R. D., Shim, M., Seitsinger, A., Dumas, T. (2003). Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. *Journal of Educational Psychology*, 95, 570–588.
- Brissette, I., Wales, K., O'Connell, M. (2013). Evaluating the Wellness School Assessment Tool for use in public health practice to improve school nutrition and physical education policies in New York. *Journal of School Health*. 83(11), 757-762.
- Budd, E., Schwarz, C., Yount, B., Haire-Joshu, D. (2012). Factors influencing the implementation of school wellness policies in the United States, 2009. *Preventing Chronic Disease*. 9.

- Butte, N.F., Christiansen, E., Sørensen, T.I. (2007). Energy imbalance underlying the development of childhood obesity. *Obesity* 15(12), 3056-3066.
- CAHMI. (2011). Data Resource Center for Child and Adolescent Health, a project of the Child and Adolescent Health Measurement Initiative (CAHMI). State Obesity Profiles, National Survey of Children's Health. Retrieved from <http://www.ncsl.org/research/health/childhood-obesity-trends-state-rates.aspx>.
- Carter, J. (2012). Using School Guidelines and Policy Data to Change Physical Activity and Nutrition Environments, Training, Weight of the Nation, Centers for Disease Control and Prevention.
- Castelli, D.M., Centeio, E.E., Beighle, A.E., Carson, R.L., & Nicksic, H.M. (2014). Physical literacy and comprehensive school physical activity programs. *Preventative Medicine*, 66, 95-100.
- Centers for Disease Control and Prevention. (2013). Comprehensive School Physical Activity Programs: A Guide for Schools. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/healthyschools/physicalactivity/cspap.htm>.
- Centers for Disease Control and Prevention. (2015a). Oklahoma: State Nutrition, Physical Activity, and Obesity Profile. U.S. Department of Health and Human Services. Retrieved from <http://www.cdc.gov/nccdphp/dnpao/state-local-programs/profiles/oklahoma.html>.
- Centers for Disease Control and Prevention. (2015b). Whole School, Whole Community, Whole Child (WSCC). Retrieved from <https://www.cdc.gov/healthyschools/wsc/index.htm>.
- Centers for Disease Control and Prevention. (2015c). School Health Index. Retrieved from <http://www.cdc.gov/healthyschools/shi/index.htm>.

- ChangeLab Solutions. (2012). The Healthy, Hunger-Free Kids Act of 2010: Provisions that improve the school food environment. Retrieved from <http://www.changelabsolutions.org/publications/HHFKA-school>.
- Chriqui, J.F., Resnick, E.A., Schneider, L., Schermbeck, R., Adcock, T., Carrion, V., Chaloupka, F.J. (2013). School district wellness policies: evaluating progress and potential for improving children's health five years after the federal mandate. school years 2006–07 through 2010-11. Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, 3.
- Cicchetti, D.V., Feinstein, A.R. (1990). High agreement but low kappa: II. Resolving the paradoxes. *Journal of Clinical Epidemiology*, 43, 551–558.
- Cohen, J.W. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Fernández-Sánchez, A., Madrigal-Santillan, E., Bautista, M., Esquivel-Soto, J., Morales-Gonzalez, A. (2011). Inflammation, oxidative stress, and obesity. *International Journal of Molecular Sciences*. 12(5), 3117-3132.
- Fink, K.J., Erwin, C., Hildebrand, D.A., Betts, N.A. (2015). Communities of Excellence in Physical Activity and Nutrition: Grant Report July 1, 2011 through June 20, 2015. Unpublished report.
- Gaines, A.B., Lonis-Shumate, S.R., Gropper, S.S. (2011). Evaluation of Alabama public school wellness policies and state school mandate implementation. *Journal of School Health*. 81(5), 281-287.

- HealthyAmericans.org. (2014). Oklahoma. The State of Obesity: Better Policies for a Healthier America 2014. Retrieved from <http://stateofobesity.org/states/ok/>.
- Heshmat, R., Larijani, F.A., Pourabbasi, A. (2014). Do overweight students have lower academic performance than their classmates? A pilot cross sectional study in a middle school in Tehran. *Journal of Diabetes and Metabolic Disorders*. 13(1), 87.
- Hildebrand, D., Sternlof, S. (2008). An Evaluation of Coordinated School Health in Oklahoma. *Oklahoma State University*.
- Institute of Medicine. (2012). *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*. Institute of Medicine. Retrieved from <http://www.nationalacademies.org/hmd/Reports/2012/Accelerating-Progress-in-Obesity-Prevention.aspx>.
- Johnson, J.A., Johnson, A.M. (2015). Urban-rural differences in childhood and adolescent obesity in the United States: a systematic review and meta-analysis. *Childhood Obesity Journal*. 11(3), 233-241.
- Kesztyüs, D., Lauer, R., Schreiber, A.C., Kesztyüs, T., Kilian, R., Steinacker, J.M. (2014). Parents' willingness to pay for the prevention of childhood overweight and obesity. *Health Economics Review*. 4(20), 1-8.
- Kim, J.H., So, W.Y. (2013). Association between overweight/obesity and academic performance in South Korean adolescents. *Central European Journal of Public Health*. 21(4), 179-183.

- Kipping, R.R., Jago, R., Lawlor, D.A. (2012). Developing parent involvement in a school-based child obesity prevention intervention: a qualitative study and process evaluation. *Journal of Public Health*. 34(2), 236-244.
- Lazarou, C., Kalavana, T., Matalas, A.L. (2008). The influence of parents' dietary beliefs and behaviours on children's dietary beliefs and behaviours. The CYKIDS study. *Appetite*. 51(3), 690-696.
- Lehnert, T., Sonntag, D., Konnopka, A., Riedel-Heller, S., Konig, H.H. (2013). Economic costs of obesity. *Best Practice & Research: Clinical Endocrinology & Metabolism*. 27(2), 105-115.
- Lutfiyya, M.N., Lipsky, M.S., Wisdom-Behounek, J., Inpanbutr-Martinkus, M. (2007). Is rural residency a risk factor for overweight and obesity for U.S. children?. *Obesity*. 15(9), 2348-2356.
- Nanney, M.S., Davey, C.S., Kubik, M.Y. (2013). Rural disparities in the distribution of policies that support healthy eating in US secondary schools. *Journal of the Academy of Nutrition & Dietetics*, 113, 1062-1068
- Ogden, C.L., Carroll, M.D., Kit, B.K., Flegal, K.M. (2014). Prevalence of childhood and adult obesity in the United States, 2011. *Journal of the American Medical Association*. 311(8), 806-814.
- Oklahoma State Department of Education. (2015). Physical Education and Health Legislation. Oklahoma State Department of Education. Retrieved from <http://sde.ok.gov/sde/physical-education-and-health-legislation#1186>.

- OSDE. (2015). Low Income School Report. Retrieved from <http://sde.ok.gov/sde/child-nutrition-documents#Low-Income>.
- Patton, G. C., Bond, L., Carlin, J. B., Thomas, L., Butler, H., Glover, S., Catalano, R., Bowes, G. (2006). Promoting social inclusion in schools: A group-randomized trial of effects on student health risk behavior and well-being. *American Journal of Public Health, 96*, 1582–1587.
- Schwartz, M.B., Henderson, K.E., Falbe, J. (2012). Strength and comprehensiveness of district school wellness policies predict policy implementation at the school level. *Journal of School Health. 82*(6), 262-267.
- Serrano, E., Kowaleska, A., Hosig, K., Fuller, C., Fellin, L., Wigand, V. (2007). Status and goals of local school wellness policies in Virginia: a response to the child nutrition and WIC Reauthorization Act of 2004. *Journal of Nutrition Education & Behavior. 39*(2), 95-100.
- Smith, E., Capogrossi, K., Estabrooks, P. (2012). School wellness policies: effects of using standard templates. *American Journal of Preventive Medicine, 43*(3), 304-308.
- School Nutrition Association. (2016). Smart Snacks in Schools. School Nutrition Standards. Retrieved from <https://schoolnutrition.org/aboutschoolmeals/schoolnutritionstandards/>.
- Story, M., Kaphingst, K., French, S. (2006). The role of schools in obesity prevention. *The Future of Children. 16*(1), 109-142.
- Thornton, L.E., Crawford, D.A., Cleland, V.J., Timperio, A.F., Abbott, G., Ball, K. (2012). Do food and physical activity environments vary between disadvantaged urban and rural areas? Findings from the READI Study. *Health Promotion Journal of Australia. 23*(2), 153-156.

- Tsai, A.G., Williamson, D.F., Glick, H.A. (2011). Direct medical cost of overweight and obesity in the USA: a quantitative systematic review. *Obesity Review*. 12(1), 50-61.
- US Census Bureau. (2010). 2010 Census Urban and Rural Classification and Urban Area Criteria. Retrieved from <https://www.census.gov/geo/reference/ua/urban-rural-2010.html>.
- USDA. (2014). Healthy Hunger-Free Kids Act | Food and Nutrition Service. Retrieved from <http://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act>.
- Vilsack, T.J. (2012). The Healthy, Hunger-Free Kids Act--building healthier schools. *Childhood Obesity Journal*. 8(1), 4.
- WellsAT. (2013). WellsAT: Rudd Center – How to Use This Tool. Retrieved from http://www.wellsat.org/how_to_use_this_tool.aspx.
- Wright, K., Norris, K., Newman-Giger, J., Suro, Z. (2012). Improving healthy dietary behaviors, nutrition knowledge, and self-efficacy among underserved school children with parent and community involvement. *Childhood Obesity Journal*. 8(4), 347-356.

APPENDICES

Appendix A

Recruitment flyer and consent form for participation in this study



What promotes and hinders implementation of School Wellness Policies in rural Oklahoma elementary schools?

Researchers from OSU Department of Nutritional Sciences will interview key school faculty and staff (i.e., principal, classroom teacher, physical education teacher, school nutrition director/manager, and district's school wellness official). The project is supported by the Oklahoma Department of Education Child Nutrition Program.

What will the researchers do?

- Researchers make a site visit and interview key faculty and staff at a date convenient for the school.
- Questions will pertain to how the school wellness policy is being implemented.
- Each interview will take 10 to 30 minutes.
- If the person is not available on the day of the site visit interviews can be conducted by telephone.

How do the school & students benefit?

- The school will receive \$500 to use at its discretion.
- The combined information will be shared with decision makers and lead to development of programs and resource allocation to support healthy school environments.
- These environments help students learn and practice healthy behaviors. Healthy students miss less schools and have better academic outcomes.
- A follow-up study will be conducted to learn how families support healthy school environments.

Is there risk involved in answering the interview questions?

- No. All information will remain confidential. The information you share will not be given to your supervisor or other people in the school or community.
- All information will be reported in aggregate. Neither the school or the individual will be identified.

What if I don't want to participate or answer a question?

- Participation is voluntary. You may stop the interview at any time by simply telling the researcher.
- Not participating will not result in loss of benefits or privileges.

Who can participate?

Any elementary school site located in rural Oklahoma.

For more information

deana.hildebrand@okstate.edu
405-744-5059
Deana Hildebrand, PhD, RD, SNS, LD
Oklahoma State University

Pilot Study of School Wellness Policy Implementation: Promoters and Barriers in Rural Oklahoma Elementary Schools

Agreement to Participate

Fall Semester 2015

The _____ Public School agrees to participate in the research study titled *School Wellness Policy Implementation: Promoters and Barriers in Rural Oklahoma Elementary Schools*. We understand the project will be conducted by Nutritional Sciences faculty at Oklahoma State University (OSU) and is supported by the Oklahoma State Department of Education Child Nutrition Programs (OSDE CNP).

The benefit of participating is consistent with our mission of providing a learning environment that supports students in gaining their full potential. In part, this is achieved by providing a healthy and safe school environment including access to healthy food and opportunities to be physically active. These efforts are accomplished through comprehensive school wellness policies and support from school administrators, classroom teachers, school nutrition staff, physical education teachers and parents. In addition, we recognize that monitoring implementation of the school wellness policy is a requirement of the Healthy and Hunger Free Kids Act, 2010 (HHFKA).

Compared to urban schools, rural elementary schools have unique situations and resources in achieving safe and healthy learning environments. We understand the outcomes of the project will provide needed information to develop resources for rural schools aimed at enhancing implementation of school wellness policies and compliance with the HHFKA.

We have reviewed the project proposal and are aware it includes confidential interviews with various members of the elementary school site faculty and staff (e.g., school site principal, a classroom teacher, a physical education teacher, food service director, school lunchroom monitor and member of the district's wellness committee). The length of the interviews will range from 10 to 30 minutes and will be conducted over the course of a school day, scheduled to meet the convenience of the school. We acknowledge there are no risks associated with this project greater than those encountered in daily life, and that all information will be aggregated so that confidentiality from all individuals is maintained.

By agreeing to participate, we understand OSDE CNP has confirmed participation will meet SWP implementation assessment requirements, and that a report will be provided to the school for use in public notification of the results. In addition the school district will invoice the University and receive \$500 from OSU to use at the district's discretion. The invoice should be sent to the attention of Deana Hildebrand (contact information below). OSU commits to not conducting data collection during state testing periods.

Signature of Researcher	Signature of School Representative
Title	Title
Telephone/email contact information	Telephone/email contact information
Date	School District
	District's Federal Employment Identification Number
	Date

Appendix B

Email from IRB manager at Oklahoma State stating the study does not qualify for human subject research as defined by 45 CFR 46.102 (d) and (f) and therefore is not subject to oversight by the OSU IRB

----- Forwarded message -----

From: IRB <irb@okstate.edu>

To: "Hildebrand, Deana" <deana.hildebrand@okstate.edu>

Cc: "Betts, Nancy" <nancy.betts@okstate.edu>, "Fink, Kevin" <kevin.fink@okstate.edu>, "Gates, Gail" <gail.gates@okstate.edu>

Date: Wed, 18 Mar 2015 19:58:36 +0000

Subject: IRB Application Determined to be Not Human Subjects Research

IRB Application No: HS-15-15

Proposal Title: Pilot Study of School Wellness Policy Implementation: Promoters and Barriers in Rural Oklahoma Elementary Schools.

Reviewed and Processed as: Exempt

Application Status: Closed

Based on the information provided in this application, the OSU-Stillwater IRB has determined that your project does not qualify as human subject research as defined in 45 CFR 46.102 (d) and (f) and is not subject to oversight by the OSU IRB. Should you have any questions or concerns, please do not hesitate to contact the IRB office at [405-744-3377](tel:405-744-3377) or irb@okstate.edu.

Cordially,

Dawnett Watkins

IRB Manager

Appendix C

WellSAT 2.0

DISTRICT		0= Not mentioned 1= Weak statement 2= Meets/exceeds expectations
SCHOOL YEAR / POLICY DATE		
DISTRICT ID		
EVALUATOR		
REVIEW DATE		

ELEMENT	LABEL	SCORE
1. Nutrition Education (Score: 0-2)		
NEPE1	Nutrition / Health Education curriculum	
NEPE2	Elementary: Receive Nutrition Education	
NEPE3	Middle School Receive Nutrition Education	
NEPE4	High School Receive Nutrition Education	
NEPE5	Links Nutrition Education with Food Environment	
NEPE6	Nutrition Education teaches Behavior-Focused Skills	
NEPE7	Nutrition Education is Sequential/Comprehensive	
Comprehensive	(total # of 1 or 2 in section 1 /7) x 100	
Strength	(total # of 2 in section 1 /7) x 100	

2. Standards for USDA Child Nutrition Programs and School Meals (Score: 0-2)		SCORE
SM1	Access to USDA Breakfast Program	
SM2	USDA Nutr Standards for Reimbursable Meals	
SM3	School Meals More Stringent than USDA	
SM4	Protect Privacy of FRP Participants	
SM5	USDA Ntl Lunch/Breakfast Described in Full	
SM6	Strategies to Increase School Meal participation	
SM7	Students Leaving During School Lunch Periods	
SM8	Adequate Time to Eat	
SM9	Annual Training for Food/Nutr Staff: USDA Standards	
SM10	Addresses School Meal Environment	
SM11	Nutrition Info is Available to Students & Parents	
SM12	FRP Meals Eligibility Specified	
SM13	Elementary: Recess (when offered) Before Lunch	
SM14	Free Drinking Water Available during Meals	
Comprehensive	(total # of 1 or 2 in section 2 / 14) x 100	
Strength	(total # of 2 in section 2 / 14) x 100	

3. Standards for Competitive Foods (Score: 0-2)		ALL
NS1	USDA Nutrition Standards for All Foods Sold (Smart Snacks)	
NS2	Foods Sold During Extended School Day	
NS3	Foods & Beverages Served Before/Aftercare	
NS4	Elementary: Food at Class Parties/Celebrations	
NS5	Beverages Sold During School Day (Smart Snacks)	
NS6	Beverages Sold During Extended School Day	
NS7	Foods & Beverages: Non-nutritive Sweeteners	
NS8	High School: Food & Beverages Sold with Caffeine	
NS9	Smart Snack Standards Described in Full/SWP Link	
NS10	Free Drinking Water throughout School Day	
NS11	Food Sold for Fundraising at All Times	
Comprehensive	(total # of 1 or 2 in section 3 / 11) x 100	
Strength	(total # of 2 in section 3 / 11) x 100	

4. Physical Education and Activity (Score: 0-2)		SCORE
PEPA1	Written PE Curriculum K-12	
PEPA2	Written PE Curriculum: National, State PE Standards	
PEPA3	Elementary: PE Time per Week	
PEPA4	Middle School: PE Time per Week	
PEPA5	High School: PE Time per Week	
PEPA6	PE Teacher-Student Ratio	
PEPA7	PE Teacher Qualifications K- 12	
PEPA8	PE Training for PE Teachers	
PEPA9	PE Waiver K-12	
PEPA10	PE Exemptions K-12	
PEPA11	PE Substitutions K-12	
PEPA12	CSPAP Plan per School	
PEPA13	Active Transport K-12	
PEPA14	Physical Activity Before and After School K-12	
PEPA15	Elementary: Recess	
PEPA16	Physical Activity Breaks K-12	
PEPA17	Staff Involved in Physical Activity Opportunities	
PEPA18	Family/Community Engagement in Physical Activity	
PEPA19	Physical Activity Training for All Teachers	
PEPA20	Joint/Shared-Use at All Schools	
Comprehensive	(total # of 1 or 2 in section 4 / 20) x 100	
Strength	(total # of 2 in section 4 / 20) x100	

5. Wellness Promotion and Marketing (Score: 0-2)		SCORE
WPM1	Model Healthy Eating/Drinking Behaviors	
WPM2	Not Model Unhealthy Eating/Drinking Behaviors	
WPM3	Model Physical Activity Behaviors	
WPM4	Food Not Used as Reward	
WPM5	Physical Activity Encouraged as Reward Encouraged	
WPM6	Physical Activity Not Used as Punishment	
WPM7	Physical Activity Not Withheld as Punishment	
WPM8	Marketing to Promote Healthy Food/Beverages	
WPM9	Promotion of Physical Activity	
WPM10	Family Wellness Activities: Nutrition & Physical Activity	
WPM11	Restrictions: Signs, Scoreboards, Equipment	
WPM12	Restrictions: Curricula, Textbooks, Websites	
WPM13	Restrictions: Vending, Cups/Containers, Displays, Trash	
WPM14	Restrictions: Publications, Radio, TV, Computer Screen, PA	
WPM15	Restrictions: Fundraisers, Sponsors	
Comprehensive	(total # of 1 or 2 in section 5 / 15) x 100	
Strength	(total # of 2 in section 5 / 15) x 100	

6. Implementation, Evaluation, Communication (Score: 0-2)		SCORE
IEC1	Ongoing District Wellness Committee (DWC)	
IEC2	DWC: Community-wide Representation	
IEC3	District-Level Official Accountable for Compliance	
IEC4	Designated School Leader Accountable for Compliance	
IEC5	Annual Assessment of SWP Implementation/Progress	
IEC6	Progress Report is Made for School Community	
IEC7	Progress Report is Made for Public	
IEC8	Progress Report is Transparent	
IEC9	Plan for Updating Policy Elements	
IEC10	Communication Methods with Public	
IEC11	Solicit/Engage Families to Meet Wellness Goals	
Comprehensive	(total # of 1 or 2 in section 6 / 11) x 100	
Strength	(total # of 2 in section 6 / 11) x 100	
Total Comprehensiveness	(total # items in ALL sections with 1 or 2 / 78) x 100	
Total Strength	(total # in ALL sections with "2" / 78) x 100	

Appendix D

WellSAT-I

WellSAT-i 2.0: Wellness School Assessment Tool for Implementation

Working Draft developed by Kathryn Henderson, Margaret Read, and Marlene Schwartz at the Rudd Center for Food Policy and Obesity

School District: _____

Elementary School: _____

Researcher: _____

Date/s of Data Collection: _____

For Researchers Use: Data checklist

Interviews			Observations		Documents	
Key Informant	Date/Time	Completed	Place food offered	Completed	Type	Obtained
Principal			Lunch meal service		SWP	
Classroom Teacher			A la carte foods		Posted menus	
PE Teacher			Vending machines		Comprehensive school physical activity plan (if available)	
FSD			Snack bars		School schedule	
Cafeteria Manager			Water fountains		SWP report (if available)	
District SWP Official						

How to Rate Policy Implementation

This school wellness policy implementation tool (WellSAT-i) 2.0 measures the degree to which the 78 policy items from the Wellness School Assessment Tool (WellSAT) 2.0 are implemented. WellSAT-i 2.0 items are categorized into the six sections in the WellSAT 2.0: Nutrition Education, Standards for USDA Child Nutrition Programs and School Meals, Nutrition Standards for Competitive and Other Foods and Beverages, Physical Education and Physical Activity, and Wellness Promotion and Marketing, and Implementation, Evaluation and Communication.

For each of the 78 WellSAT 2.0 items, implementation is rated “0”, “1”, or “2”, using the definitions below. For each item on the WellSAT-i 2.0 we indicate the appropriate informant to interview, followed by the WellSAT 2.0 item it is paired with, and examples of “0”, “1”, and “2” implementation coding.

Abbreviation	Informant
P	Principal Note: The Assistant Principal can be interviewed in replace of the Principal.
T	Teacher who teaches nutrition education
PET	PE Teacher
FSD	Food Service Director
CM	Cafeteria Manager
DDLO	Designated District Level Official

Rating		Explanation
0	= Has not been implemented	Assign a rating of “0” when: <ul style="list-style-type: none"> • The practice is not in place at all.
1	= Partial implementation	Assign a rating of “1” when: <ul style="list-style-type: none"> • The practice has been partially implemented.
2	= Fully implemented	Assign a rating of “2” when: <ul style="list-style-type: none"> • The practice has been fully implemented.

Principal Interview Questions (n=25)

Before beginning the interview share the following information with the school principal:

OSU, in partnership with OSDE Child Nutrition, is aiming to learn what faculty and staffs in rural elementary schools know about the school wellness policy and how you are going about implementing the policies. We are also working with the Rudd Center for Food Policy and Obesity to test a series of questions for this purpose and will provide feedback to them on how well the questions do or don't work.

We are interviewing 6 people in the school who are affected by the SWP, the principal, classroom teacher, PE teacher, food service director, cafeteria manager (if different from the FSD) and the district level official designated to share outcomes with the public. Because principals have a broad knowledge of what's happening in the school building there are a total of 25 questions in 5 sections: nutrition education; schools meals; competitive foods; physical education and activity; and wellness promotion.

If you are agreeable, I would like to record our conversation. The recording will only be used by me to verify my rating. It will not be shared with OSDH or the Rudd Center. All information received by school faculty and staff will be combined for one score.

The school will receive a report that can be used to inform the public about the school's progress in implementing the SWP. This will meet the USDA requirement for Evaluation and Communication.

Section 1. Nutrition Education				
Informant	Item	WellSAT 2.0 Item	Rating Guidance	
All Informants	1. Have you read your school's wellness policy? Note: bring copy of document with you.		0	Has not read school wellness policy
			1	Has scanned or partially read the school wellness policy
			2	Has fully read the school wellness policy
Observations/Notes:				
P	2. Is there a standards-based nutrition curriculum, health education curriculum or other curriculum that includes nutrition taught in the school? If yes, a. What is the title or titles of the curricula? b. For every grade? c. How many hours (or units) do the students receive in every grade?	NEPE1	0	A standards-based nutrition education curriculum, health education curriculum or other curriculum that includes nutrition does not exist.
			1	One of the following: The curriculum is taught in only some grades. The curriculum is taught in every grade but not every year.
			2	The curriculum is taught in every grade yearly.
Observations/Notes:				

P	<p>3. Do all elementary school students receive nutrition education? If yes,</p> <p>a. For every grade? b. Every year? c. How many hours of nutrition education do the students receive in each grade? d. What does the nutrition education entail?</p>	NEPE2	0	A nutrition education does not exist for any elementary grade.
			1	One of the following: Nutrition education is taught in only some grades. Nutrition education is taught in every grade but not yearly.
			2	Nutrition education curriculum is taught in every grade yearly.
Observations/Notes:				
P	<p>4. Do all middle school students receive nutrition education? If yes,</p> <p>a. For every grade? b. Every year? c. How many hours of nutrition education do the students receive in each grade? d. What does the nutrition education entail?</p>	NEPE3	0	A nutrition education curriculum does not exist for any middle school grade.
			1	One of the following: Nutrition education is taught in only some grades. Nutrition education is taught in every grade but not yearly.
			2	Nutrition education curriculum is taught in every grade yearly.
Observations/Notes:				

P	<p>5. Do all high school students receive nutrition education? If yes,</p> <p>a. For every grade? b. Every year? c. How many hours of nutrition education do the students receive in each grade? d. What does the nutrition education entail?</p>	NEPE4	0	A nutrition education curriculum does not exist for any high school grade.
			1	One of the following: Nutrition education is taught in only some grades. Nutrition education is taught in every grade but not yearly.
			2	Nutrition education curriculum is taught in every grade yearly.
Observations/Notes:				

P	<p>6. Does the nutrition education link with the school food environment for every grade? If yes,</p> <p>a. How (e.g., school gardens, cafeteria learning lab, student nutrition projects)? b. Does the nutrition education link apply to all grades in the school?</p>	NEPE5	0	One of the following: Nutrition education does not exist. Nutrition education does not link with the school food environment.
			1	One of the following: Nutrition education links with school food environment only for some grades. Nutrition education links with the school food environment for every grade but not every year.
			2	Nutrition education links with the school food environment for all grades every year.
Observations/Notes:				

Section 2. Standards for USDA Child Nutrition Programs and School Meals

P	<p>15. Are high school students permitted to leave during the lunch period?</p> <p>If yes, a. What grades are permitted to leave during lunch?</p>	SM7	0	No restrictions on high school students leaving during the lunch period.
			1	Some restrictions on high school students leaving during the lunch period. Examples: Only some grades are able to leave to obtain lunch off campus. Only on Fridays are students able to leave to obtain lunch off campus.
			2	Students are prohibited from leaving campus for lunch.
Observations/Notes:				
P	<p>16. How much time does the school allot students to eat breakfast and lunch?</p> <p>Note: Oklahoma does not have a state policy on adequate time to eat school meals. The recommendation is 20 minutes table time for lunch and 10 minutes table time for breakfast.</p>	SM8	0	The school does not allot the students the required table time to eat breakfast and lunch.
			1	The principal states students are allotted the required time to eat breakfast and lunch, but the school schedule does not indicate sufficient time.
			2	The school does allot the students the required time to eat breakfast and lunch as indicated by the school schedule.
Observations/Notes:				

P	21. Is recess (when offered) scheduled before lunch in elementary schools?	SM13	0	Recess is never scheduled before lunch in elementary schools.
			1	One of the following: Some grades, but not all grades, have recess scheduled before lunch. Recess is scheduled before lunch 3 days a week.
			2	All grades have recess scheduled before lunch and this is indicated on the school schedule.

Observations/Notes:

Section 3. Nutrition Standards for Competitive Foods and Other Foods and Beverages

P	26. Do celebrations (e.g., birthday parties, holiday parties) that offer food and/or beverages occur during the school day? If yes, a. Are any foods and beverages restricted? b. Do celebrations occur in every grade? c. How often do the celebrations occur? d. Does the school prohibit scheduling of more than one party per class per month?	NS4	0	Food celebrations occur at the school without any restrictions
			1	Food celebrations are allowed at the schools but with restriction(s). Examples: Food celebrations cannot occur before 2 pm. Soda is not allowed to be brought for food celebrations. Only one food celebration can occur per month per grade.
			2	Food celebrations are not allowed at the school and do not occur.

Observations/Notes:

P	<p>32. Is water available throughout the school day (excluding when meals are served)?</p> <p>If yes,</p> <p>a. How is it made available?</p> <p>b. Are students allowed to carry water bottles with them?</p>	NS10	0	Students are not permitted access to water during the school day.
			1	<p>Students have limited access to water during the school day.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Water is available only at certain times throughout the school day (e.g., only during meal times). • Students are denied access to water as a punishment.
			2	Students have access to water throughout the school day, and this is observed.
Observations/Notes:				
P	<p>33. Does the school participate in fundraisers during the school day that involve selling food and/or beverages?</p> <p>If yes:</p> <p>a. Who is in charge of approving all fundraising activities?</p> <p>b. Do any fundraisers occur during mealtimes?</p> <p>c. Is the use of food and beverages in fundraising restricted in some other way?</p> <p>d. Does the school encourage promotion of physical activity during or as fundraisers (e.g., walk-a-thons)?</p> <p>e. Does the District provide a list of approved non-food or healthy food fundraising activities?</p>	NS11	0	The school permits food and beverage fundraisers without any restrictions.
			1	The school permits food and beverage fundraisers with some restrictions (e.g., no candy fundraisers are permitted but cookie fundraisers are allowed).
			2	<p>One of the following:</p> <ul style="list-style-type: none"> • The principal does not permit any food and beverage fundraisers and staff who conduct fundraisers state no food and/or beverages are permitted. • Fundraisers meet the state policy on frequency and type of allowable foods and beverages sold.
Observations/Notes:				

Section 4. Physical Education and Physical Activity

P	<p>47. Is before and after school physical activity promoted for all K-12 elementary school students? If yes, a. How so?</p>	PEPA14	0	Before and after school physical activity is not promoted to all students.
			1	Before and after school physical activity is promoted for some grades.
			2	Before and after school physical activity is promoted for all grades and this is observed.
Observations/Notes:				
P	<p>48. Is there daily recess for every grade in elementary school? If no, a. How many days/week is recess? b. How long is recess? c. Is recess structured? If yes, a. How long is recess? b. Is recess structured?</p>	PEPA15	0	Daily recess does not occur for every grade in elementary.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> Daily recess occurs for some grades in elementary as indicated by the school schedule. Every grade in elementary receives recess a few days each week as indicated by the school schedule.
			2	Daily recess does occur for every grade in elementary as indicated by the school schedule.
Observations/Notes:				

P	52. Is physical activity training provided for all teachers? If yes, a. What kind? b. Is this offered every school year?	PEPA19	0	Physical activity training is not provided to teachers.
			1	Physical activity training is provided to some teachers.
			2	Physical activity training is provided to all teachers yearly.
Observations/Notes:				

Section 5. School Wellness Promotion and Marketing				
P	54. Are school staff encouraged to model healthy eating and drinking behaviors? If yes, a. Are staff encouraged to eat the school meals? b. Are staff encouraged to drink water? c. Are staff allowed to drink soda in front of the students? d. Is it possible for staff to sit and eat the school meals from the school meals program with students?	WPM1	0	School staff are not encouraged to model healthy eating and drinking behaviors.
			1	School staff are sporadically encouraged to model healthy eating and drinking behaviors.
			2	School staff are continuously encouraged to model healthy eating and drinking behavior.
Observations/Notes:				

P	55. Are school staff prohibited from modeling unhealthy eating and drinking behaviors? If yes, a. What are specific examples? b. What is considered unhealthy?	WPM2	0	School staff are not prohibited from modeling unhealthy eating/drinking behaviors.
			1	School staff are encouraged to not model unhealthy eating and drinking behaviors but are not required to do so.
			2	School staff are prohibited from modeling unhealthy eating and drinking behavior.

Observations/Notes:

P	56. Are school staff encouraged to model physical activity behaviors? If yes, a. What are specific examples?	WPM3	0	School staff are not encouraged to model physical activity behaviors.
			1	
			2	School staff are encouraged to model physical activity behaviors.

Observations/Notes:

P	57. Are school staff prohibited from using food as a reward?	WPM4	0	<p>One of the following:</p> <ul style="list-style-type: none"> School staff are allowed to use food as a reward. The principal does not allow food as a reward but the staff do not follow this rule.
			1	<p>School staff are permitted to use food as a reward with some restrictions.</p> <p>Example:</p> <ul style="list-style-type: none"> Only healthy foods can be used a reward.
			2	Staff are prohibited from using food as a reward
Observations/Notes:				
P	58. Are school staff encouraged to use physical activity as a reward?	WPM5	0	School staff are not encouraged use physical activity as a reward.
			1	
			2	Staff are encouraged to use physical activity as a reward.
Observations/Notes:				

P	59. Do staff use physical activity as a punishment? If no, a. What types of punishments are used?	WPM6	0	School staff use physical activity as a punishment.
			1	
			2	School staff do not use physical activity as a punishment.
Observations/Notes:				
P	60. Are staff prohibited from withholding physical activity as a punishment? If yes, a. Do staff withhold recess as punishment? b. Do staff withhold PE as punishment?	WPM7	0	Staff are not prohibited from withholding physical activity as punishment.
			1	One of the following: <ul style="list-style-type: none"> • Staff are prohibited from withholding recess but not PE as punishment. • Staff are prohibited from withholding PE but not recess as punishment.
			2	Staff are prohibited from withholding recess and PE as punishment.
Observations/Notes:				

P	61. Are specific marketing and encouragement of healthy food and beverage choices promoted in the school? If yes, a. How is it done (e.g., posters, menus)? b. What types of foods and beverages are promoted? c. Does this occur for both during and outside of school times?	WPM8	0	There is no marketing/promotion of healthy foods and beverages in the school.
			1	Marketing/promotion of healthy foods and beverages is done for some grades and not the entire school.
			2	Marketing/promotion is done to promote healthy choices for the entire school.
Observations/Notes:				

P	62. Are specific strategies to encourage physical activity outside of PE promoted at the school? If yes, a. What are the strategies?	WPM9	0	Physical activity is not promoted at the school.
			1	Physical activity is encouraged to some grades but not the entire school.
			2	Physical activity is encouraged to all grades.
Observations/Notes:				

Designated district level official/P	65. Are foods and beverages that cannot be sold to students during the school day (i.e., do not meet USDA Smart Snacks nutrition standards) marketed in curricula, textbooks, websites used for educational purposes, or other educational materials (both printed and electronic) prohibited in the school?	WPM12	0	Foods and beverages that do not meet Smart Snacks standards are marketed in curricula, textbooks, websites for educational experiences, or other educational materials.
			1	
			2	There is no marketing of food and beverages that cannot be sold during the school day (e.g., do not meet Smart Snacks standards) in curricula, textbooks, websites, or other educational materials.
Observations/Notes:				
FSD, Designated district level official, P	66. Are foods and beverages that do not meet USDA Smart Snacks nutrition standards marketed/advertised on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.?	WPM13	0	Foods and beverages that do not meet Smart Snacks standards are marketed on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.
			1	
			2	There is no marketing/advertising of food and beverages that do not meet Smart Snack nutrition standards on vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.
Observations/Notes:				

Designated district level official/P	68. Are foods and beverages that do not meet USDA Smart Snacks standards promoted in fundraisers and corporate-sponsored programs that encourage students and their families to sell, purchase, or consume products and/or provide funds to schools in exchange for consumer purchases of those products?	WPM15	0	Foods/beverages that do not meet the Smart Snacks requirements are promoted in fundraisers and/or corporate-sponsored programs.
			1	
			2	Foods/beverages that do not meet the Smart Snacks requirements are not promoted in fundraisers and/or corporate-sponsored programs.
Observations/Notes:				

Section 6. Implementation, Evaluation and Communication

That is the end of the SWP questions. There are a few school demographic questions, and I would also like you to rank several education related variables in order of their importance to you. “1” is the most important and “10” is the least important.

Note to Researcher: Hand the “School Leader Variable” form to the principal. When he or she is finished ask about and record the demographics shown in the unshaded areas of the table. The demographic information may be collected prior to the interview.

	District:				School:			
NLSP participation rate	___ ADP	___% Free	___% Reduced	___% Paid	___ ADP	___% Free	___% Reduced	___% Paid
SBP participation rate (if applicable)								
Median income								
Environmental setting: suburban, rural or urban	Rural				Rural			
Grade Levels								
School size (total # students)								
Total # Faculty & Staff								
Ethnicity Breakdown	African American ____ Caucasian ____ American Indian ____ Hispanic ____ Asian ____				African American ____ Caucasian ____ American Indian ____ Hispanic ____ Asian ____			
Informant's number of years with school/district	___/___ Designated District Official		___/___ Food Service Director		___/___ Principal		___/___ PE Teacher	
					___/___ Teacher		___/___ Cafeteria Manager	
Informant's gender (Observed) M = male; F = female	___ Designated District Official		___ Food Service Director		___ Principal		___ PE Teacher	
					___ Teacher		___ Cafeteria Manager	
Does the school collect any health information on students?	BMI Diabetes Asthma Other				BMI Diabetes Asthma Other			

Classroom Teacher Interview Questions (n=3)

Before beginning the interview share the following information with the classroom teacher:

OSU, in partnership with OSDE Child Nutrition, is aiming to learn what faculty and staffs in rural elementary schools know about the school wellness policy and how you are going about implementing the policies. We are also working with the Rudd Center for Food Policy and Obesity to test a series of questions for this purpose and will provide feedback to them on how well the questions do or don't work.

We are interviewing 6 people in the school who are affected by the SWP, the principal, classroom teacher, PE teacher, food service director, cafeteria manager (if different from the FSD) and the district level official designated to share outcomes with the public. Because teachers know what's happening in the classroom we have 3 questions about nutrition education.

If you are agreeable, I would like to record our conversation. The recording will only be used by me to verify my rating. It will not be shared with OSDH or the Rudd Center or anyone in your school district. All information received by school faculty and staff will be combined for one score. The school will receive a report that can be used to inform the public about the school's progress in implementing the SWP.

Section 1. Nutrition Education			
Informant	Item	WellSAT 2.0 Item	Rating Guidance
All Informants	1. Have you read your school's wellness policy? Note: bring copy of document with you.		0 Has not read school wellness policy
			1 Has scanned or partially read the school wellness policy
			2 Has fully read the school wellness policy
Observations/Notes:			

T	<p>7. Do you offer nutrition education that teaches skills that are behavior focused, interactive, and/or participatory (e.g., media awareness, menu planning, reading nutrition facts labels)?</p> <p>If yes, please provide examples.</p>	NEPE6	0	Nutrition education does not involve teaching skills that are behavior focused, interactive, and/or participatory.
			1	<p>Nutrition education sometimes involves teaching skills that are behavior focused, interactive, and/or participatory.</p> <p>Example: School nurse teachers lecture on carbohydrates but there is no application of the material being taught.</p>
			2	Nutrition education uniformly teaches skills that are behavior focused, interactive, and/or participatory.

Observations/Notes:

T	<p>8. Is the nutrition education curriculum that is taught sequential <i>and</i> comprehensive in scope?</p> <p>a. Is the curriculum grade appropriate for each grade?</p> <p>b. Does the curriculum meet state or federal learning objectives and standards?</p>	NEWP7	0	The curriculum is neither sequential nor comprehensive.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> The curriculum is sequential, but not comprehensive. The curriculum is comprehensive but not sequential.
			2	Nutrition education curriculum is both sequential and comprehensive.

Observation/Notes:

Section 2. Standards for USDA Child Nutrition Programs and School Meals

Section 3. Nutrition Standards for Competitive Foods and Other Foods and Beverages

Section 4. Physical Education and Physical Activity

Section 6. Implementation, Evaluation and Communication

That is the end of the SWP questions. There are two demographic questions: 1) the number of years you have been with school district; and 2) the number of years you have taught at this school site.

Note to Researcher: Record the classroom teacher's responses in the unshaded areas of the demographic table.

	District:				School:			
NLSP participation rate	___ ADP	___% Free	___% Reduced	___% Paid	___ ADP	___% Free	___% Reduced	___% Paid
SBP participation rate (if applicable)								
Median income								
Environmental setting: suburban, rural or urban	Rural				Rural			
Grade Levels								
School size (total # students)								
Total # Faculty & Staff								
Ethnicity Breakdown	African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___				African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___			
Informant's number of years with school/district	___/___ Designated District Official		___/___ Food Service Director		___/___ Principal		___/___ PE Teacher	
					___/___ Classroom Teacher		___/___ Cafeteria Manager	
Informant's gender (Observed) M = male; F = female	___ Designated District Official		___ Food Service Director		___ Principal		___ PE Teacher	
					___ Classroom Teacher		___ Cafeteria Manager	
Does the school collect any health information on students?	BMI Diabetes Asthma Other				BMI Diabetes Asthma Other			

PE Teacher Interview Questions (n=12)

Before beginning the interview share the following information with the physical education teacher:

OSU, in partnership with OSDE Child Nutrition, is aiming to learn what faculty and staffs in rural elementary schools know about the school wellness policy and how you are going about implementing the policies. We are also working with the Rudd Center for Food Policy and Obesity to test a series of questions for this purpose and will provide feedback to them on how well the questions do or don't work.

We are interviewing 6 people in the school who are affected by the SWP, the principal, classroom teacher, PE teacher, food service director, cafeteria manager (if different from the FSD) and the district level official designated to share outcomes with the public. There are 12 questions about how physical education is taught at your school.

If you are agreeable, I would like to record our conversation. The recording will only be used by me to verify my rating. It will not be shared with OSDH, the Rudd Center or anyone in your school district. All information received by school faculty and staff will be combined for one score. The school will receive a report that can be used to inform the public about the school's progress in implementing the SWP.

Section 1. Nutrition Education			
Informant	Item	WellSAT 2.0 Item	Rating Guidance
All Informants	1. Have you read your school's wellness policy? Note: bring copy of document with you.		0 Has not read school wellness policy
			1 Has scanned or partially read the school wellness policy
			2 Has fully read the school wellness policy
Observations/Notes:			
Section 2. Standards for USDA Child Nutrition Programs and School Meals			
Section 3. Nutrition Standards for Competitive Foods and Other Foods and Beverages			

Section 4. Physical Education and Physical Activity				
PET	34. Is there a formal written PE curriculum for every grade?	PEPA1	0	There is no formal written PE curriculum at the school.
			1	There is a formal written PE curriculum at the school for some grades.
			2	There is a formal written PE curriculum at the school for every grade.
Observations/Notes:				

PET	35. Does the written physical education curriculum follow the national and/or state physical education standards?	PEPA2	0	The curriculum does not follow national and/or state physical education standards.
			1	
			2	The curriculum follows the national and/or state physical education standards.
Observations/Notes:				

PET	<p>36. How many minutes of PE does each grade in elementary school receive?</p> <p><u>Note: NASPE recommends that schools provide 150 minutes of instructional PE for elementary school children.</u></p>	PEPA3	0	All elementary school students do not receive the required minutes of PE each week.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> Elementary school students do receive the required minutes of PE each week, but this is not indicated on the school schedule. The school schedule indicates some elementary school grades receive the required minutes of PE each week.
			2	All elementary school students do receive the required minutes of PE each week, and this is indicated on the school schedule.
Observations/Notes:				

PET	<p>37. How many minutes of PE does each grade in middle school receive?</p> <p>Note: NASPE recommends that schools provide 225 minutes of instructional physical education for middle school students per week for the entire school year.</p>	PEPA4	0	All middle school students do not receive the required minutes of PE each week.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> • Middle school students do receive the required minutes of PE each week, but this is not indicated on the school schedule. • The school schedule indicates some middle school grades receive the required minutes of PE each week.
			2	All middle school students do receive the required minutes of PE each week, and this is indicated on the school schedule.
Observations/Notes:				

PET	<p>38. How many minutes of PE does each grade in high school receive?</p> <p>Note: NASPE recommends that schools provide 225 minutes of instructional physical education for high school students per week for the entire school year.</p>	PEPA5	0	All high school students do not receive the required minutes of PE each week.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> High school students do receive the required minutes of PE each week, but this is not indicated on the school schedule. The school schedule indicates some high school grades receive the required minutes of PE each week.
			2	All high school students do receive the required minutes of PE each week, and this is indicated on the school schedule.
Observations/Notes:				

PET	39. In PE, what is the student-teacher ratio for each grade? a. Is the student-teacher ratio for PE different than other classes in the corresponding grade?	PEPA6	0	The student-teacher ratio in physical education classes is not the same ratio as other classes.
			1	
			2	The student-teacher ratio in physical education classes is the same ratio as other classes.
Observations/Notes:				

PET	40. What are the qualifications for a PE teacher? a. Do PE teachers have to be licensed? b. Do PE teachers have to follow NASPE standards?	PEPA7	0	The school's PE teacher(s) are not qualified, not licensed, and do not follow NASPE standards.
			1	Some of the school's PE teacher(s) are qualified, licensed, and follow NASPE standards.
			2	All of the school's PE teacher(s) are qualified, licensed, and follow NASPE standards.
Observations/Notes:				

PET	41. For PE teachers, is relevant ongoing training offered every year? If yes, a. What kind or type of training is offered?	PEPA8	0	Relevant, ongoing training is not offered every year for PE teachers.
			1	Relevant, ongoing training is offered some years for PE teachers.
			2	Relevant, ongoing training is offered every year for PE teachers.
Observations/Notes:				
PET	42. Are waivers for physical education allowed? If yes, a. In what instances?	PEPA9	0	Waivers for physical education class are explicitly allowed, and students may substitute other physical activities for physical education class.
			1	One of the following: <ul style="list-style-type: none"> • Waivers for physical education class are explicitly allowed, but students cannot substitute other physical activities for physical education class. • Waivers for physical education class are explicitly allowed, but students can substitute other physical activities for physical education class.
			2	Waivers for physical education class are not allowed, and students

			are prohibited from substituting other physical activities for physical education class.
--	--	--	--

PET	43. Are physical education exemptions for K-12 students allowed in the school?	PEPA10	0	Exemptions for PE are allowed with no restrictions.
			1	Exemptions for PE are allowed for some grades.
			2	Exemptions for PE for K-12 students are not allowed.
Observations/Notes:				

PET	44. Are physical education substitutions allowed for K-12 students (e.g., substituting PE requirements for other activities)?	PEPA11	0	Physical education substitutions are not restricted in K-12 students.
			1	Physical education substitutions are allowed for some grades.
			2	Physical education substitutions are restricted for all grades.
Observations/Notes:				

PET	45. Is there a comprehensive school physical activity program (CSPAP) plan at each school? If yes, ask for a copy.	PEPA12	0	There is not a CSPAP plan at each school.
			1	
			2	There is a CSPAP plan at each school and a copy of the plan is obtained.
Observations/Notes:				

PET	49. Are regular physical activity breaks provided for all K-12? If yes, a. Does this occur daily for all grades in elementary? b. What do the breaks consist of?	PEPA16	0	Regular physical activity breaks are not provided for all students.
			1	Regular physical activity breaks are provided for some grades.
			2	Regular physical activity breaks are provided for all grades.
Observations/Notes:				

That is the end of the SWP questions. There are two demographic questions: 1) the number of years you have been with school district; and 2) the number of years you have taught at this school site.

Note to Researcher: Record the PE teacher's responses in the unshaded areas of the demographic table.

	District:				School:			
NLSP participation rate	___ ADP	___% Free	___% Reduced	___% Paid	___ ADP	___% Free	___% Reduced	___% Paid
SBP participation rate (if applicable)								
Median income								
Environmental setting: suburban, rural or urban	Rural				Rural			
Grade Levels								
School size (total # students)								
Total # Faculty & Staff								
Ethnicity Breakdown	African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___				African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___			
Informant's number of years with school/district	___/___ Designated District Official		___/___ Food Service Director		___/___ Principal		___/___ PE Teacher	
					___/___ Classroom Teacher		___/___ Cafeteria Manager	
Informant's gender (Observed) M = male; F = female	___ Designated District Official		___ Food Service Director		___ Principal		___ PE Teacher	
					___ Classroom Teacher		___ Cafeteria Manager	
Does the school collect any health information on students?	BMI Diabetes Asthma Other				BMI Diabetes Asthma Other			

Food Service Director Questions (n=16)

Before beginning the interview share the following information with the food service director:

OSU, in partnership with OSDE Child Nutrition, is aiming to learn what faculty and staffs in rural elementary schools know about the school wellness policy and how you are going about implementing the policies. We are also working with the Rudd Center for Food Policy and Obesity to test a series of questions for this purpose and will provide feedback to them on how well the questions do or don't work.

We are interviewing 6 people in the school who are affected by the SWP, the principal, classroom teacher, PE teacher, food service director, cafeteria manager (if different from the FSD) and the district level official designated to share outcomes with the public. There are 16 questions about food service operations in your district. All of the questions are specific to the elementary school site.

If you are agreeable, I would like to record our conversation. The recording will only be used by me to verify my rating. It will not be shared with OSDH, the Rudd Center or anyone at your school. All information received by school faculty and staff will be combined for one score. The school will receive a report that can be used to inform the public about the school's progress in implementing the SWP.

Section 1. Nutrition Education				
Informant	Item	WellSAT 2.0 Item	Rating Guidance	
All Informants	1. Have you read your school's wellness policy? Note: bring copy of document with you.		0	Has not read school wellness policy
			1	Has scanned or partially read the school wellness policy
			2	Has fully read the school wellness policy
Observations/Notes:				

Section 2. Standards for USDA Child Nutrition Programs and School Meals				
FSD	9. Does the school participate in the School Breakfast Program? a. Is breakfast offered every day? b. Is breakfast offered to all students (all grade levels) every day?	SM1	0	The school does not participate in the School Breakfast Program.
			1	One of the following: The school participates in the School Breakfast Program but not every day (e.g., only Monday, Wednesday, and Friday). The school participates in the School Breakfast Program but it is not offered to every student or every grade.
			2	The school participates in the School Breakfast Program every school day for all grades.
Observations/Notes:				
FSD	10. Does every meal provide students with all of the required food components (i.e., fat-free or reduced-fat milk; whole-grain rich grains, lean protein, fruit and vegetable)?	SM2	0	School meals do not provide students the required meal components.
			1	One of the following: The school meals provide all food components but not every day. School meals provide less than the required food components on some days. School meals provide all food components on all days, but not in the specified quantity.
			2	Breakfast provides whole grain, fruit and milk in specified quantity. Lunch meals provide milk, fruit, vegetable, whole-grain rich grain and lean protein in specified quantities.
Observations/Notes:				

FSD		SM3	0	The nutrition standards for breakfast and lunch are not stricter than the USDA school meal regulations.
			1	The nutrition standards for breakfast and lunch are stricter than the USDA school meal regulations, but the menu does not indicate the stricter standards are being done.
			2	<p>The nutrition standards for breakfast and lunch are stricter than the USDA school meal regulations, and the menu indicates the stricter standards are being done.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Juice is not offered during lunch. • Flavored milk is not offered during breakfast and/or lunch. • Sweet grains (e.g., cookies, cakes) are not offered as part of school meals.
Observations/Notes:				

FSD	<p>12. Does the district take steps beyond those required by federal law/regulation to protect the privacy of students who qualify for free or reduced-price meals?</p> <p>a. If yes, what are these steps?</p> <p>Note: All schools qualify for community eligibility.</p>	SM4	0	The district does not take steps beyond those required by federal law/regulation to protect the privacy of students who qualify for free or reduced-price meals.
			1	
			2	<p>The district takes steps beyond those required by federal law/regulation to protect the privacy of students who qualify for free or reduced-price meals and all of these steps are observed in the cafeteria. Examples:</p> <ul style="list-style-type: none"> • The cafeterias are cashless—all students, regardless of the type of payment they make for school meals, or the food being purchased (meal or a la carte) are given a code to enter at the cash register. • Competitive foods are sold from the same lines as reimbursable meals. • Competitive foods are not sold during lunch periods.
Observations/Notes:				

FSD	<p>13. Does the wellness policy provide the USDA National School Lunch Program and School Breakfast Program standards in full (or provide a link to the standards)?</p> <p>Note: if there is a link check to see if the link is active.</p>	SM5	0	The wellness policy does not provide the USDA NSLP and SBP standards in full.
			1	<p>Some but not all standards are outlined in the policy.</p> <p>Examples:</p> <ul style="list-style-type: none"> The SBP standards are provided but not the NSLP. The NSLP standards are provided but not the SBP.
			2	USDA NSLP and SBP standards are fully included in the policy or a working link to the USDA website is provided.
Observations/Notes:				
FSD	<p>14. Does the district use strategies to increase participation in school meal programs?</p> <p>If yes, a. What are they?</p>	SM6	0	No strategies to increase participation in school meal programs are done.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> Strategies are used to increase participation for breakfast only. Strategies are used to increase participation for lunch only.
			2	<p>Strategies are used to increase participation for both breakfast and lunch and they are observed.</p> <p>Examples:</p> <p>Access is limited to competitive foods in the cafeteria.</p> <p>All high school students have a scheduled lunch period.</p> <p>"Grab and Go" or Breakfast in the Classroom.</p>
Observations/Notes:				

FSD	<p>17. Is relevant annual training for food and nutrition services staff in accordance with USDA Professional Standards offered?</p> <p>(Available: http://www.fns.usda.gov/sites/default/files/CN2014-0130.pdf)</p>	SM9	0	Relevant ongoing training is not offered to the Food Service Director and on site manager or person responsible for menu planning.
			1	Relevant ongoing training is offered to the Food Service Director but not the onsite manager, person responsible for menu planning, or staff responsible for meal oversight.
			2	Relevant ongoing training is offered to the Food Service Director and on site manager, person responsible for menu planning, or staff responsible for meal oversight.

Observations/Notes:

FSD	<p>20. How are parents informed about the availability of free and reduced price meals? (e.g., websites, parent newsletter, news article, radio, social media)</p> <p>NA: All schools qualify for community eligibility</p>	SM12	0	No effort is made to inform parents about F/R price meals.
			1	
			2	Applications for free/reduced priced meals are sent home to all families at the beginning of the school year. The application is also available on the district website.

Observations/Notes:

Section 3. Nutrition Standards for Competitive Foods and Other Foods and Beverages

FSD	<p>23. Are there vending machine(s), school stores, or concession stands in the school or anywhere on the school campus that students have access to? (Note: This does not refer to vending machine(s) accessible to staff only).</p> <p>Elementary schools? Middle schools? High schools?</p> <p>If yes,</p> <ol style="list-style-type: none"> a. Who operates them? b. Who receives the money from the purchases? c. Are there any restrictions on the types of foods that are sold? d. What types of foods are sold? e. Do students have access before, during, or after school? 	NS1	0	Vending machines, school stores and concession stands carry unhealthy foods and/or beverages without any restrictions.
			1	
			2	One of the following: No vending machines, school stores and concession stands on the school campus. Vending machines, school stores and concession stands only carry Smart Snacks approved food and beverage items.

Observations/Notes:

FSD	<p>24. Are there vending machine(s), school stores, or concession standards in the school or anywhere on the school campus that students have access to during the EXTENDED school day?</p> <p>Elementary schools?</p> <p>Middle schools?</p> <p>High schools?</p> <p>If yes,</p> <p>a. Who runs the store?</p> <p>b. Where is it located?</p> <p>c. What hours is it open?</p> <p>d. Are there any restrictions on the types of food and/or beverages sold in the school store?</p>	NS2	0	Vending machines, school stores, and concession stands sells unhealthy foods and/or beverages without any restrictions.
			1	
			2	<p>One of the following:</p> <p>No vending machines, school stores and concession stands on the school campus.</p> <p>Vending machines, school stores and concession stands only carry Smart Snacks approved food and beverage items.</p>
Observations/Notes:				

FSD	<p>25. Is before/after school care provided on school grounds which provides food and/or beverages? Elementary schools? Middle schools? High schools?</p> <p>If yes, a. Does the food service program provide the food and beverages? b. Are there any restrictions on the types of food and/or beverages provided?</p>	NS3	0	Food and beverages are provided during before and after school care without any restrictions.
			1	
			2	The food service program provides food and beverage to before and after school care and items are federally and state approved.
Observations/Notes:				

FSD	<p>27. Do all beverages sold to students during the school day meet USDA minimum nutrition standards (commonly referred to as Smart Snacks)?</p>	NS5	0	Beverages sold do not meet Smart Snacks standards.
			1	Food Service Director states Smart Snacks standards are met but observations indicate standards are not met.
			2	Food Service Director states Smart Snacks standards are met and observations indicate standards are met.
Observations/Notes:				

FSD	28. Are there specific nutrition standards for all beverages sold to students during the extended school day (includes regular school day plus after school programming and clubs)?	NS6	0	There are no specific nutrition standards.
			1	Beverages meet nutrition standards but they are weaker than Smart Snack standards
			2	Beverages meet Smart Snack standards and this is indicated in observations.
Observations/Notes:				
FSD	<p>NOTE: Ask this question only if the <u>elementary school</u> has foods and beverages sold outside of the school meals program (e.g., in school stores, vending machines, etc.)</p> <p>29. Do foods and beverages sold outside of the school meals program and inside the school store and vending machines contain non-nutritive sweeteners (e.g., diet beverage, zero-calorie)?</p>	NS7	0	FSD states foods/beverages sold outside of the school meal program and inside the school store and vending machines contain non-nutritive sweeteners
			1	FSD states foods/beverages sold outside of the school meal program and inside the school store and vending machines do not contain non-nutritive sweeteners, but it is indicated through some of the observations of the school store, all vending machines, and/or school menu(s) including a la carte items.
			2	FSD states foods sold outside of the school meal program and inside the school store and vending machines contain no non-nutritive sweeteners, and this is indicated through all observations of the school store, all vending machines, and school menu(s) including a la carte items.
Observations/Notes:				

FSD	<p>NOTE: Ask this question only of the elementary school has foods and beverages sold outside of the school meals program (e.g., in school stores, vending machines, etc.)</p> <p>30. Do foods and beverages sold outside of the school meals program and inside the school store and vending machines contain caffeine at the high school level?</p> <p>*As of 2014, USDA Smart Snacks standards prohibit the sale of foods and beverages containing caffeine in elementary and middle schools.</p>	NS8	0	FSD states foods/beverages sold outside of the school meal program and inside the school store and vending machines contain caffeine.
			1	FSD states foods/beverages sold outside of the school meal program and inside the school store and vending machines do not contain caffeine, but it is indicated through some of the observations of the school store, all vending machines, and/or school menu(s) including a la carte items.
			2	FSD states foods sold outside of the school meal program and inside the school store and vending machines contain no caffeine, and this is indicated through all observations of the school store, all vending machines, and school menu(s) including a la carte items.
Observations/Notes:				

FSD	31. Are the USDA Smart Snacks standards described in full (or a link to the standards) in the wellness policy? Note: if there is a link check to see if the link is active.	NS9	0	USDA Smart Snacks standards are not provided in the wellness policy.
			1	
			2	The complete Smart Snack standards are included in the policy or an active web link is provided that includes the complete Smart Snack standards.
Observations/Notes:				

Section 4. Physical Education and Physical Activity				
Section 5. School Wellness Promotion and Marketing				
FSD, Designated district level official, P	66. Are foods and beverages that do not meet USDA Smart Snacks nutrition standards marketed/advertised on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.?	WPM13	0	Foods and beverages that do not meet Smart Snacks standards are marketed on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.
			1	
			2	There is no marketing/advertising of food and beverages that do not meet Smart Snack nutrition standards on vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.
Observations/Notes:				

Section 6. Implementation, Evaluation and Communication

That is the end of the SWP questions. There are some demographic questions related to school meal participation, free and reduced price meal eligibility and how long you have worked with the school district.

Note to Researcher: Record the food service director's responses in the unshaded areas of the demographic table.

	District:				School:			
NLSP participation rate	___ ADP	___% Free	___% Reduced	___% Paid	___ ADP	___% Free	___% Reduced	___% Paid
SBP participation rate (if applicable)								
Median income								
Environmental setting: suburban, rural or urban	Rural				Rural			
Grade Levels								
School size (total # students)								
Total # Faculty & Staff								
Ethnicity Breakdown	African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___				African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___			
Informant's number of years with school/district	___/___ Designated District Official		___/___ Food Service Director		___/___ Principal		___/___ PE Teacher	
					___/___ Classroom Teacher		___/___ Cafeteria Manager	
Informant's gender (Observed) M = male; F = female	___ Designated District Official		___ Food Service Director		___ Principal		___ PE Teacher	
					___ Classroom Teacher		___ Cafeteria Manager	

Cafeteria Manager Interview Questions (n=4)

Before beginning the interview share the following information with elementary school cafeteria manager.

OSU, in partnership with OSDE Child Nutrition, is aiming to learn what faculty and staffs in rural elementary schools know about the school wellness policy and how you are going about implementing the policies. We are also working with the Rudd Center for Food Policy and Obesity to test a series of questions for this purpose and will provide feedback to them on how well the questions do or don't work.

We are interviewing 6 people in the school who are affected by the SWP, the principal, classroom teacher, PE teacher, food service director, cafeteria manager (if different from the FSD) and the district level official designated to share outcomes with the public. There are 4 questions about meal service at the elementary school.

If you are agreeable, I would like to record our conversation. The recording will only be used by me to verify my rating. It will not be shared with OSDH, the Rudd Center or anyone in your school district. All information received by school faculty and staff will be combined for one score. The school will receive a report that can be used to inform the public about the school's progress in implementing the SWP.

Section 1. Nutrition Education			
Informant	Item	WellSAT 2.0 Item	Rating Guidance
All Informants	1. Have you read your school's wellness policy? Note: bring copy of document with you.		0 Has not read school wellness policy
			1 Has scanned or partially read the school wellness policy
			2 Has fully read the school wellness policy
Observations/Notes:			
Section 2. Standards for USDA Child Nutrition Programs and School Meals			

CM	18. Does the cafeteria have adequate seating space? a. Is the cafeteria a pleasant eating environment? b. Are students supervised during their meal period?	SM10	0	The cafeteria does not have adequate seating, the students are not supervised during meal periods, and the cafeteria is an unpleasant eating environment.
			1	The cafeteria has one or more of the following but not all: <ul style="list-style-type: none"> • Adequate seating • Supervision of students during all meal periods • Pleasant eating environment
			2	The cafeteria does have adequate seating, the students are supervised during meal periods, and the cafeteria is a pleasant eating environment.
Observations/Notes:				

CM	<p>19. Is nutrition information for school meals (calories, saturated fat, sodium, sugar) available to students and parents? If yes, a. Through what methods is this information communicated (e.g., website, menu is sent home)?</p> <p>Ask for a copy of these materials.</p>	SM11	0	The nutritional content of the school meals is not made available to all students and parents.
			1	<p>One of the following:</p> <ul style="list-style-type: none"> • The nutritional content of the school meals is made available to students or parents but not both. • The nutritional content of the school meals is made available to some students and parents. • The nutritional content of the school meals is made available to students and/or parents but the information is not in multiple languages.
			2	The nutritional content of the school meals is made available to students and parents.
Observations/Notes:				

CM	22. Is water available during breakfast and lunch? If yes, a. How is it made available for breakfast? b. How is it made available for lunch?	SM14	0	Students are not permitted to access water during the school meals.
			1	Students have limited access to water during the school meals. Examples: <ul style="list-style-type: none"> • Water is available only at the beginning of the school meal. • Students are denied access to water as a punishment. • Water fountains are not working.
			2	Students have access to water during school meals, and this is observed.
Observations/Notes:				

Section 3. Nutrition Standards for Competitive Foods and Other Foods and Beverages

Section 4. Physical Education and Physical Activity

Section 5. School Wellness Promotion and Marketing

Section 6. Implementation, Evaluation and Communication

That is the end of the SWP questions. There are some demographic questions about how long you have worked with the school district and at the school site.

Note to Researcher: Record the cafeteria manager’s responses in the unshaded areas of the demographic table.

	District:				School:			
NLSP participation rate	___ ADP	___% Free	___% Reduced	___% Paid	___ ADP	___% Free	___% Reduced	___% Paid
SBP participation rate (if applicable)								
Median income								
Environmental setting: suburban, rural or urban	Rural				Rural			
Grade Levels								
School size (total # students)								
Total # Faculty & Staff								
Ethnicity Breakdown	African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___				African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___			
Informant's number of years with school/district	___/___ Designated District Official		___/___ Food Service Director		___/___ Principal		___/___ PE Teacher	
					___/___ Classroom Teacher		___/___ Cafeteria Manager	
Informant's gender (Observed) M = male; F = female	___ Designated District Official		___ Food Service Director		___ Principal		___ PE Teacher	
					___ Classroom Teacher		___ Cafeteria Manager	

Designated School Wellness Official Interview Questions (n=21)

Before beginning the interview share the following information with the district's designated school wellness official:

OSU, in partnership with OSDE Child Nutrition, is aiming to learn what faculty and staffs in rural elementary schools know about the school wellness policy and how you are going about implementing the policies. We are also working with the Rudd Center for Food Policy and Obesity to test a series of questions for this purpose and will provide feedback to them on how well the questions do or don't work.

We are interviewing 6 people in the school who are affected by the SWP, the principal, classroom teacher, PE teacher, food service director, cafeteria manager (if different from the FSD) and the district level official designated to share outcomes with the public. As the district level representative there are 21 total questions in 4 categories: nutrition education; physical education and activity; school wellness promotion; and implementation, evaluation and monitoring.

If you are agreeable, I would like to record our conversation. The recording will only be used by me to verify my rating. It will not be shared with OSDH, the Rudd Center or anyone in your school district. All information received by school faculty and staff will be combined for one score. The school will receive a report that can be used to inform the public about the school's progress in implementing the SWP.

Section 1. Nutrition Education

Informant	Item	WellSAT 2.0 Item	Rating Guidance	
All Informants	1. Have you read your school's wellness policy? Note: bring copy of document with you.		0	Has not read school wellness policy
			1	Has scanned or partially read the school wellness policy
			2	Has fully read the school wellness policy

Observations/Notes:

Section 2. Standards for USDA Child Nutrition Programs and School Meals

Section 3. Nutrition Standards for Competitive Foods and Other Foods and Beverages

Section 4. Physical Education and Physical Activity

Designated district level official	46. Is active transport promoted for all K-12 students? If yes, a. What type of promotions?	PEPA13	0	The district does not promote active transport for K-12 students.
			1	One of the following: <ul style="list-style-type: none"> The district promotes active transport for some grades. The district promotes active transport for some schools.
			2	The district promotes active transport for all grades and all schools.

Observations/Notes:

Designated district level official	50. Are there specific requirements for staff involvement in physical activity opportunities at all schools? If yes, a. How is this promoted?	PEPA17	0	There are no specific requirements for staff involvement in physical activity opportunities at all schools.
			1	One of the following: There are specific requirements for staff involvement in physical activity opportunities at some schools. There are specific requirements for staff involvement in physical activity opportunities but this is not promoted.
			2	There are specific requirements for staff involvement in physical activity opportunities at all schools and this is promoted at all schools.

Observations/Notes:

Designated district level official	51. Are there specific provisions for family and community engagement in physical activity opportunities at the school? If yes, a. What is offered?	PEPA18	0	There are no provisions for family/community engagement in physical activity opportunities.
			1	
			2	There are specific provisions for family and community engagement in physical activity opportunities at the school.
Observations/Notes:				
Designated district level official	53. Do schools have joint or shared-use agreements required for physical activity resources at all schools so expanded physical activity opportunities are available for students and community members? If yes, a. With whom?	PEPA20	0	The school does not have a joint or shared-use agreement to expand physical activity opportunities for students and community members.
			1	
			2	The school does have a joint or shared-use agreement to expand physical activity opportunities for students and community members.
Observations/Notes:				

Section 5. School Wellness Promotion and Marketing

Designated district level official	<p>63. Are family wellness activities planned and included in nutrition and physical activity events? If yes, a. What are the types of activities that occur? b. How many occur during the school year?</p>	WPM10	0	Family wellness activities are not planned by the school.
			1	The school offers nutrition and physical activity events, but specific family wellness activities are not included.
			2	The school nutrition and physical activity events include family wellness events that are advertised to parents.
Observations/Notes:				

Designated district level official/ observation	64. Are foods and beverages that do not meet USDA Smart Snacks nutrition standards marketed on signs, scoreboards, and sports equipment on the school campus?	WPM11	0	Foods and beverages that <u>do not</u> meet the USDA Smart Snacks in Schools regulations are marketed on standards signs, scoreboards, and sports equipment.
			1	
			2	There is no marketing of food and beverages that cannot be sold during the school day (e.g., do not meet Smart Snack nutrition standards) on signs, scoreboards and sports equipment.
Observations/Notes:				

Designated district level official/P	65. Are foods and beverages that cannot be sold to students during the school day (i.e., do not meet USDA Smart Snacks nutrition standards) marketed in curricula, textbooks, websites used for educational purposes, or other educational materials (both printed and electronic) prohibited in the school?	WPM12	0	Foods and beverages that do not meet Smart Snacks standards are marketed in curricula, textbooks, websites for educational experiences, or other educational materials.
			1	
			2	There is no marketing of food and beverages that cannot be sold during the school day (e.g., do not meet Smart Snacks standards) in curricula, textbooks, websites, or other educational materials.
Observations/Notes:				

<p>FSD, Designated district level official, P</p>	<p>66. Are foods and beverages that do not meet USDA Smart Snacks nutrition standards marketed/advertised on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.?</p>	<p>WPM13</p>	0	<p>Foods and beverages that do not meet Smart Snacks standards are marketed on exteriors of vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.</p>
			1	
			2	<p>There is no marketing/advertising of food and beverages that do not meet Smart Snack nutrition standards on vending machines, food or beverage cups or containers, food display racks, coolers, trash and recycling containers, etc.</p>
<p>Observations/Notes:</p>				

Section 6. Implementation, Evaluation and Communication

Designated district level official	69. Has a district wellness committee been established? If yes, a. How often does the wellness committee meet?	IEC1	0	A district wellness committee has not been established.
			1	There is a district wellness committee, but it does not meet or does not meet on a regular basis.
			2	The committee meets on a regular basis throughout the year.
Observations/Notes:				

Designated district level official	70. Does the wellness committee have community-wide representation? If yes, Are the following groups represented: a. parents? b. students? c. PE teachers? d. school food authority? e. school health professionals? f. SNAP Ed coordinators? g. school board members? h. administrators? i. community-based organizations? j. general public?	IEC2	0	There is no community-wide representation.
			1	There is some community-wide representation.
			2	The wellness committee has full community-wide representation.
Observations/Notes:				

Designated district level official	<p>71. Who is the district level official (position) who is accountable for ensuring each school is in compliance (ensuring that there is reporting-up)? If there is one, a. What is the position of the official (e.g., superintendent, asst. superintendent)?</p> <p>Contact them and ask how they make sure each school is in compliance.</p>	IEC3	0	There is no one accountable for ensuring each school is in compliance.
			1	
			2	A district level person is responsible for ensuring compliance of each school sites with the school wellness policy and is actively reporting compliances and noncompliances of each school.
Observations/Notes:				
Designated district level official	<p>72. Who is the leader (position) in each school who is accountable for ensuring compliance within the school and reporting-up to the district level?</p>	IEC4	0	There is no one person responsible for ensuring compliance within the school.
			1	
			2	There is a designated leader in each school accountable for school level compliance and has reported to the district compliance and noncompliances.
Observations/Notes:				

Designated district level official	73. Is there an annual assessment of SWP implementation and progress towards wellness goals? If yes, a. How are assessments conducted? (e.g., WellSAT-I, School Health Index, Alliance for a Healthier Generation checklist, etc.) b. Is the assessment a written report? (If yes, obtain a copy.) c. Is the assessment distributed to the district and each school?	IEC5	0	There is no annual assessment of SWP implementation/progress towards wellness goals.
			1	Assessment of SWP implementation/progress towards wellness goals occurs, but less than annually.
			2	Annual assessments are conducted and distributed to the district and all schools.
Observations/Notes:				
Designated district level official	74. Is there a progress report on compliance/implementation made to the school community (Board of Education, superintendent, principals, staff, students and parents)? If yes (ask for a copy), a. How often is it reported? b. How is it distributed?	IEC6	0	There is no progress report.
			1	A progress report exists but is not made available to the school community.
			2	There is evidence (school newsletter, posted on website, etc.) that the report exists and is made to the school community.
Observations/Notes:				

Designated district level official	<p>75. Is there a progress report on compliance/implementation made to the public?</p> <p>If yes,</p> <p>a. What channels of communication are used?</p> <p>b. Is this done yearly?</p>	IEC7	0	There is no progress report made to the public.
			1	A progress report is made but is not made available to the public.
			2	There is evidence (news article, posted on website, etc.) that the report is made to the public.
Observations/Notes:				
Designated district level official	<p>76. Does the progress report include the web address of the wellness policy, a description of each school's activities and progress towards meeting wellness?</p> <p>If yes,</p> <p>a. When is the progress report posted?</p> <p>b. Where is it posted?</p> <p>c. What does it include?</p>	IEC8	0	<p>One of the following:</p> <ul style="list-style-type: none"> • There is no progress report. • There is no transparency providing information about the wellness policy, the school's activities, or progress towards meeting wellness.
			1	The progress report includes some transparency but not

				all.
			2	The progress report identifies the web address of the school wellness policy and a description of the school's activities and progress towards meeting wellness.
Observations/Notes:				

Designated district level official	77. How often is the SWP reviewed and revised based on best practices? a. When was the last update? b. Is there a formal procedure for reviewing and revising?	IEC9	0	There is no plan for updating the policy based on best practices.
			1	
			2	The SWP is reviewed and revised on a specified basis.
Observations/Notes:				

Designated district level official	78. What methods are used to communicate wellness policy information to the public? a. How often is this information shared? b. What information is shared with the public? c. Is the information in multiple languages?	IEC10	0	The wellness policy information is not shared with the public.
			1	Some communication of the wellness policy occurs.
			2	Specific communication methods are used to communicate the wellness policy to the public.
Observations/Notes:				

Designated district level official	79. Does the district engage families to provide information and/or solicit input to meet district wellness goals? If yes, a. How (through websites, email, parent meetings or events)?	IEC11	0	Families are not provided information about the goals and their input is not utilized for district wellness goals.
			1	It is indicated that families should be included but there is no indication of this occurring.
			2	Specific methods and efforts for engaging families are used.
Observations/Notes:				

That is the end of the SWP questions. There are some demographic questions about how long you have worked with the school district and at the school site.

Note to Researcher: Record the designated official's responses in the unshaded areas of the demographic table.

	District:				School:			
NLSP participation rate	___ ADP	___% Free	___% Reduced	___% Paid	___ ADP	___% Free	___% Reduced	___% Paid
SBP participation rate (if applicable)								
Median income								
Environmental setting: suburban, rural or urban	Rural				Rural			
Grade Levels								
School size (total # students)								
Total # Faculty & Staff								
Ethnicity Breakdown	African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___				African American ___ Caucasian ___ American Indian ___ Hispanic ___ Asian ___			
Informant's number of years with school/district	___/___ Designated District Official	___/___ Food Service Director	___/___ Principal		___/___ PE Teacher			
			___/___ Classroom Teacher		___/___ Cafeteria Manager			
Informant's gender (Observed) M = male; F = female	___ Designated District Official	___ Food Service Director	___ Principal		___ PE Teacher			
			___ Classroom Teacher		___ Cafeteria Manager			

Appendix E

Principle Administrative and Academic Priorities

State: _____

District: _____

School: _____

School Leader Variables

How do you rate the following priorities from most important (1) to least important (10)?

___ professional development

___ physical activity/physical education

___ curriculum & instruction

___ budget/finances

___ mental health

___ school climate/school culture

___ school nutrition

___ school safety/violence

___ district and state test scores

___ other: _____

Appendix F

Individual School Scores for the WellSAT 2.0 and WellSAT-I

Assessment	Atoka	Calera	Chickasha Upper	Chickasha Lower	Cushing Upper	Cushing Lower	Eufaula	Little Axe	Lomega	Morrison	Norwood	Okarche	Okeene	Oklahoma Union	Sterling
WellSAT 2.0 Comprehensiveness															
Overall	56.41	19.23	46.15	46.15	50	50	57.69	50	67.95	71.79	56.76	53.85	73.08	52.56	47.44
NEPE	100	0	100	100	85.71	85.71	100	85.71	100	100	66.67	85.71	100	85.71	100
SM	78.57	21.43	78.57	78.57	50	50	50	42.86	64.29	85.71	57.14	42.86	100	57.14	50
NS	54.55	45.45	54.55	54.55	72.73	72.73	63.64	81.82	90.9	45.45	77.78	63.64	100	72.73	36.36
PEPA	30	20	10	10	30	30	40	25	40	55	26.32	30	60	35	50
WPM	73.33	6.67	33.33	33.33	66.67	66.67	46.67	73.33	93.33	80	73.33	86.67	93.33	53.33	33.33
IEC	27.28	18.18	45.46	45.46	18.18	18.18	81.82	18.18	45.46	81.82	54.55	36.36	45.45	36.36	36.36
WellSAT 2.0 Strength															
Overall	26.92	8.97	23.08	23.08	17.95	17.95	35.9	19.23	47.44	44.87	31.08	26.92	43.59	21.8	20.51
NEPE	85.71	0	100	100	28.57	28.57	0	14.29	85.71	100	0	28.57	28.57	71.43	100
SM	42.86	21.43	21.43	21.43	35.71	35.71	28.57	42.86	50	42.86	42.86	42.86	90.91	57.14	28.57
NS	9.09	18.18	18.18	18.18	0	0	63.64	0	54.55	0	22.22	9.09	90.91	18.18	9.09
PEPA	5	0	5	5	10	10	20	5	20	30	15.79	20	45	5	15
WPM	40	0	13.33	13.33	33.33	33.33	33.33	46.67	66.67	66.67	53.33	53.33	33.33	6.67	0
IEC	9.09	18.18	27.27	27.27	0	0	72.73	0	36.36	54.55	36.36	0	27.27	0	9.09
WellSAT - I Scope															
Overall	81	67	81	83	83	86	83	74	90	80	70	84	87	86	58
NEPE	60	60	100	100	100	100	80	40	100	80	20	100	100	100	60
SM	92	77	83	83	77	92	69	85	85	85	92	77	77	92	77
NS	100	56	100	100	100	100	90	89	89	80	80	100	100	100	90
PEPA	78	61	72	67	67	72	94	67	89	83	61	78	89	72	50
WPM	79	71	79	93	93	100	86	71	86	79	57	93	86	93	29
IEC	73	73	73	73	64	64	73	91	100	73	91	73	82	73	55
WellSAT - I Mastery															
Overall	65	49	63	63	48	60	69	51	67	66	49	76	71	69	45
NEPE	60	60	80	60	80	100	60	0	40	40	20	80	100	60	60
SM	83	62	75	75	62	77	69	69	54	85	62	69	77	85	62
NS	78	22	100	100	30	78	70	78	89	80	80	78	44	89	70
PEPA	67	50	56	56	50	44	72	44	61	56	39	67	72	67	39
WPM	57	57	57	64	64	86	79	43	86	71	43	93	71	64	14
IEC	45	36	28	28	0	0	55	55	64	55	45	73	73	45	45

VITA

Zachary James Bassett

Candidate for the Degree of

Master of Science

Thesis: SCHOOL WELLNESS POLICY QUALITY AND FACTORS AFFECTING
IMPLEMENTATION IN RURAL OKLAHOMA ELEMENTARY SCHOOLS

Major Field: Nutritional Sciences

Biographical:

Education:

Completed the requirements for the Master of Science in Nutritional Sciences at Oklahoma State University, Stillwater, Oklahoma in July, 2016.

Completed the requirements for the Bachelor of Science in Food, Human Nutrition, and Hospitality at the University of Arkansas, Fayetteville, Arkansas in 2014.

Experience: Graduate Research Assistant for Dr. Deana Hildebrand at Oklahoma State University

Professional Memberships: Academy of Nutrition and Dietetics