

BETTER UNDERSTANDING THE READINESS OF  
OKLAHOMA SCHOOL PRINCIPALS IN  
IMPLEMENTING COORDINATED SCHOOL HEALTH

By

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## CHAPTER I

### INTRODUCTION

The health status of youth in America is a strong indicator of their academic success. In 2009, the National Youth Risk Behavior Survey (YRBS) found that students who were less likely to engage in risky behavior, be physically active, and follow healthy dietary behaviors had higher grades when compared to students who engage in risky behavior, were not physically active, and had unhealthy dietary behavior (Centers for Disease Control and Prevention [CDC], 2009). In addition, students with higher grades were significantly less likely to drink alcohol, use cigarettes, carry a weapon, be physically inactive for 60 minutes 5 days per week, and take diet pills. Knowing that there is a relationship between youth's health status and his or her learning capabilities indicate that schools need to explore the interrelated health needs of their students, which could improve the students' academic performance (Dunkle & Nash, 1991).

Coordinated school health (CSH) is an eight-component program that is recommended by the Centers for Disease Control and Prevention (CDC) as a strategy for improving students' health and learning in America's schools (Centers for Disease Control and Prevention [CDC], 2010a). There is support that programs such as CSH improve not only students' health status but their academic performance as well (Centers

for Disease Control and Prevention [CDC], 2010b). Schools are a prime location for health education because students are the target population of CSH (CDC, 2010a). Schools also play an important role in the health and wellness of youth, and promoting their academic success (CDC, 2010a).

As such, school health programs appear to be one of the most efficient means to reduce students' risky behaviors and aid in the prevention of serious health problems (CDC, 2010a). However, CSH programs are not implemented in many schools, nor do they have the support that is needed from community members or policy makers (Deschesnes, Martin, & Jill, 2003). Better understanding principals' attitudes and beliefs related to implementation of CSH will inform decision makers in promotion strategies and policy development, ultimately improving the health and academic status of school children.

The purpose of this study is to utilize the stages of change theory to better understand the readiness of Oklahoma principals for implementing CSH. Specific objectives include:

1. To stratify responding principals into stages of change.
2. To compare principals' stage of change between elementary and secondary school principals.

Null hypothesis: There is no difference in principals' stage of change between elementary and secondary school principals.

3. To compare principals' stage of change between rural and urban/suburban school districts.

Null hypothesis: There is no difference in principals' stage of change between rural and urban/suburban school districts.

4. To compare principals' stage of change between categories of school enrollment.

Null hypothesis: There is no difference in principals' stage of change and categories of school enrollment.

5. To compare principals' stage of change between barrier and benefit items.

Null hypothesis: There is no difference in principals' stage of change between barrier and benefit items.

6. To determine the relationships between principals' stage of change and factors that influence CSH implementation; specifically teacher support, funding, parent support, skills of school food service, school board's support, and community resources.

Null hypothesis: There is no difference in the relationship between principals' stage of change and the factors that influence CSH implementation.

7. To identify themes in the principals' comments related to the barriers and benefits of CSH.

### **Definitions of Terms & Abbreviations**

Centers for Disease Control and Prevention (CDC): A major component of the Department of Health and Human Services. It works to generate needed information and tools to people and communities in order to protect their health, by means of health promotion, infectious disease and injury prevention, and environmental health threats (Centers for Disease Control and Prevention [CDC], 2011).

Coordinated School Health Program (CSH): An eight component program that is recommended by the Centers for Disease Control and Prevention as a strategy for improving students' health and learning in America's schools (CDC, 2010a).

Farm to School: A program that connects students grades K through 12, and local farms. They strive to provide healthy meals in school cafeterias, improve student nutrition, and provide health and nutrition education opportunities, while supporting area producers (Farm to School, n.d.).

Foods of Minimal Nutritional Value (FMNV): Foods as described by the United States Department of Agriculture (USDA), which are divided into four categories, 1) soda water/carbonated beverages, 2) water ices 3) chewing gum, 4) certain candy (Oklahoma State Department of Education, Child Nutrition Program [OSDE CNP], 2005).

It's All About Kids (IAAK): One of two CSH programs in the state of Oklahoma. Currently serves elementary students in three school districts, Tulsa, Union, and Sand Springs, teaching healthy habits for a bright future (Tulsa Health Department [THD], 2006).

School-Based Health Centers (SBHC): A resource that provides physical and mental health services to improve the health status of students, grades K through 12 (Geierstanger & Amaral, 2005).

Schools for Healthy Lifestyles (SHL): One of two CSH programs in the state of Oklahoma. SHL currently serves all Oklahoma schools grades K through 6<sup>th</sup> and focuses on five key areas 1) physical activity, 2) nutrition, 3) tobacco prevention, 4) safety, and 5) oral health (Schools for Healthy Lifestyles [SHL], 2006a).



Stages of Change (SOC): Stages of change are the major components of the Transtheoretical Model (TTM) of Change. There are five different clearly defined stages as a person is making a behavior change (Velicer, Prochaska, Fava, Normal, & Redding, 1998).

Transtheoretical Model (TTM) of Change: A theory that explains how people make behavior changes by progressing through five different stages over a period of time (Velicer et al., 1998).

## CHAPTER II

### REVIEW OF LITERATURE

#### **Coordinated School Health**

Coordinated school health (CSH) was developed by the CDC as a strategy to improve health of students as well as learning in schools throughout the nation (CDC, 2010a). This program was developed as studies discovered that health is strongly correlated to academic success of students (CDC, 2010a; CDC, 2010b; Rosas, Case, & Tholstrup, 2009). Although schools cannot solely improve the health of students, it is evident that they hold the captive audience that this program targets. It is known that schools make contact with more than 95% of students' ages 5 to 17 years, 6 hours per day, for up to 13 years (CDC, 2010a). During this time, skills needed for social and physical health, as well as overall well-being are being developed. CSH's goal is to target students during this time and integrate its eight-interrelated components into the school environment. The interrelated components and a short description of each follow.

1) Health Education:

Curriculum that addresses the physical, mental, emotional, and social aspects of health. Its goal is to promote overall health as well as reduce risky behavior activity.

2) Physical Education:

Curriculum that contains cognitive content and physical activity learning experiences. These programs should promote a variety of activities and allow students to develop habits to practice throughout life.

3) Health Services:

Provides access to primary health care in order to promote and maintain good health. A school-based health center (SBHC) is operated within schools and provides evaluation, diagnosis, and treatment of health needs.

There is confirmation that SBHC's have a direct effect on health status and behaviors as well as treating chronic illness and behavioral issues (Geierstanger & Amaral, 2005).

4) Nutrition Services:

Provides students with nutritious and appealing meals and supports a learning environment promoting healthy nutrition messages.

5) Counseling and Psychological Services:

Services are available to students to improve mental, emotional, and social health by individual or group assessments, as well as referrals to outside sources.

6) Healthy School Environment:

Provides surroundings to the students and staff that are safe, including the buildings, outdoor areas, climate, and the overall culture of the school.

7) Health Promotion for Staff:

The school staff has the opportunity to improve their own health status by committing to a healthy lifestyle and becoming role models for students and other staff members.

8) Family/Community Involvement:

Entails the school, parents, and community partners working collaboratively to benefit the overall health and academic success of students. Parental and community involvement are strongly encouraged to be able to respond and provide for the needs of students.

Comprehensive implementation of a CSH program is an important element of a successful program (Deschesnes et al., 2003). This level of implementation comes with great complexity and is important that it is implemented in a purposeful way. The effectiveness of CSH does not rely on the success of each individual component, but the well-orchestrated and coherent effort that is given to each component that targets several different dimensions of health and wellbeing (Deschesnes et al., 2003). Knowing this, the CDC has developed a planning and self-assessment guide to assist schools when implementing CSH. The School Health Index (SHI) guide provides an introduction to CSH, outlining the requirements, which include the eight components, and encourages engagement of a multi-faceted team to assist in proper implementation. This team should include a variety of members, including but not limited to, teachers, school administration, parents, community leaders, school counselors, and coaches (Centers for Disease Control and Prevention [CDC], 2005). Once the team is created, there are step-by-step instructions on how to create, integrate, and maintain each component into the

CSH program. Careful planning of a CSH program is needed prior to implementation in order to achieve positive results and in order to maintain participant satisfaction (Deschesnes et al., 2003).

A study conducted by Sherwood-Puzzello, Miller, Lohrmann, & Gregory (2007) used the SHI to gain insights to data collection, and improve the design and implementation of their school system's CSH program. With the use of the SHI, planning time was spent more efficiently and resulted in a more comprehensive and effective approach. Students received a wider array of health related topics and many issues related to the school health environment were exposed that needed improvement. For example, physical fitness programs were needed to meet the specific needs of obese and developmentally delayed students. Solutions included hiring an aid for the locker room to assist the students who had special needs, and provide an aqua circuit program for the students who were overweight. In this specific study, the SHI was a useful tool to identify strengths and exposed areas of improvement within the school's CSH program (Sherwood-Puzzello et al., 2007).

### **Evidence of CSH Benefits**

The most evident benefit of CSH is its positive effect on academic achievement. The 2009 National Youth Risk Behavior Survey reports that students with higher grades are significantly more likely to be physically active for 60 minutes 5 days per week, watch TV and use computers for less than 3 hours per day, drink less soda, and eat on a regular basis (CDC, 2009). These findings are consistent with schools that implement CSH, where students are more likely to be physically active, have decreased sedentary time, and have healthier dietary behaviors (CDC, 2009).

One barrier reported by school administrators for not implementing CSH is the time it takes away from academic instruction (Hildebrand & Sternlof, 2008). Contrary to this concern is the finding that schools with implemented physical activity programs had either a positive association with academic performance, or time spent in physical activity did not negatively affect students' academic performance (CDC, 2010b).

Another study that examined third and fifth grade students found that aerobic fitness and BMI were positively associated with reading and mathematics scores (Castelli, Hillman, Buck, & Erwin, 2007). In addition, the effects of physical activity programs in schools have positive outcomes on concentration, memory, self-esteem, and verbal skills (CDC, 2010b). The CDC explicitly states "superintendents and principals can devote school time to physical activity without concern that it will lower student test scores" (CDC, 2010b, pg. 28). Although in some situations academic performance may not necessarily show improvement, there is an increase in the amount of academic learning per unit of time spent in the classroom (Taras, 2005). Taras (2005) found that although less time was spent in the classroom when more time was devoted to physical activity programs, there was more being learned in the decreased amount of time spent in the classroom.

Another component of CSH is the school nutrition environment. Since children spend such a large amount of time within the school setting, a large portion of their daily food intake is consumed there, making it crucial that nutrition programs and other foods available in the school environment offer healthful choices (Story, 2009). Types of nutrition programs that are implemented include, the School Breakfast Program (SBP), National School Lunch Program (NSLP), Farm to School, and garden-based programs.

Although Oklahoma does not have mandates on participation in the SBP, or the NSLP, the Food Research and Action Center (2007) reported that 1,901 Oklahoma schools participate in the SBP, 1,956 schools participate in the NSLP, and the prevalence of Farm to School participation is on the rise (Farm to School, n.d.). In addition, many different policies are being put in place throughout the nation in order to regulate the sale of competitive foods in schools. For example, legislation was passed in 2005, ensuring Oklahoma school vending machines provide healthy snacks (O.S. L. 45, 2005). The 2005 law states 1) elementary, middle, and junior high students do not have access to foods of minimal nutritional value (FMNV), except on special occasions, 2) high school students are provided healthy food options, additional to the FMNV. In order to encourage healthy choices, incentives to students will be provided.

The impact of school breakfast programs has shown positive results on academic performance. After six months of a free breakfast program, Kleinman et al. (2002) found that math grades and nutrient status improved in students, grades 4<sup>th</sup> through 6<sup>th</sup>. The position of the American Dietetic Association is to promote school breakfasts, which are associated with improved academic performance, as well as healthy weights (American Dietetic Association, School Nutrition Association, Society for Nutrition Education [ADA, SNA, SNE], 2010). Participation in the SBP has shown to have a significant association of lower body mass index in school age children, when compared to students who do not eat breakfast (Gleason & Dodd, 2009). Positive effects on attendance rates have been exhibited as well. Schools that provide school breakfast programs have seen significant increases in attendance rates (Powell, Walker, Chang, & Grantham-

McGregor, 1998; Kleinman et al., 2002). It is logical that improved attendance would positively impact academic performance.

Parents and teachers both agree that students perform better academically if they are involved in physical activity, and given the opportunity to make healthy food choices (Schetzina et al., 2009). Another program that contributes to the nutrition environment of the school includes garden-based nutrition education, which provides students with hands on learning experiences as well as the opportunity to be physically active. Morris, Briggs, & Zidenberg-Cherr (2002) found that student participation in garden-based nutrition education allows the opportunity to walk by, harvest and eat from the garden, and gain ownership of selecting the food that they ate. This type of hands-on experience (growing, harvesting, and preparing), improves nutrition knowledge and vegetable preference of elementary age children (Morris, Briggs, & Zidenberg-Cher, 2002). Another study found that as long as students were exposed to nutrition education lessons, either, classroom education, or garden-based education, their nutrition knowledge improved significantly, while also being able to retain the information for at least a six-month time period (Morris & Zidenberg-Cherr, 2002). Another benefit of integrating garden-enhanced nutrition education is not only increased physical activity and better nutrition, but also providing a means for parental and community involvement (American Dietetic Association, Society for Nutrition Education, American School Food Service Association [ADA, SNE, ASFSA], 2003).

Farm to school is another program that incorporates fresh fruits and vegetables into the school nutrition program (Oklahoma Farm to School, 2008a). It allows schools to purchase food, usually fruits and vegetables from area farmers (Oklahoma Farm to



School, 2008b). A goal of the Farm to School program is to contribute to the development of lifelong healthy eating habits (Oklahoma Farm to School, 2008b). Joshi, Asuma, & Feenstra (2008) conducted an extensive review of Farm to School programs and concluded that students ate more fruits and vegetables within the school, as well as in the home.

For example, two schools in Washington implemented a salad bar using foods purchased through the program. They observed an increase in their fruit and vegetable serving consumption by 29% at one school, and 25% at another (Flock, Petra, Ruddy, & Peterangel, 2003). These types of programs have resulted in lifestyle changes that include improved knowledge and attitude towards healthy eating as well as a better understanding of sustainable agriculture (Farm to School, n.d.).

Overall, school nutrition programs such as the SBP, NSLP, Farm to School, and garden-based programs play a significant role in student health, wellness, and their academic success (ADA, SNA, SNE, 2010). These programs have also been seen as prominent components of CSH programs (ADA, SNA, SNE, 2010).

The 2009 National Youth Risk Behavior Survey also reported that students with higher grades were significantly less likely to carry a weapon, use cigarettes, drink alcohol, and be sexually active (CDC, 2009). These high-risk behaviors are frequently addressed in the health education and counseling and psychological components of CSH. It has been found that middle and high school students that have just a moderate involvement with substance abuse and violence/delinquency have statistically lower academic achievement, when compared to students that have little or no involvement in these types of behaviors (Mandell, Hill, Carter, & Brandon, 2002). In addition, studies

have shown that adolescents who are physically active are less likely to develop these types of risk-taking behaviors, which may also result in improved academic performance (Taras, 2005).

School-based health centers (SBHC) have also shown promise of positively affecting academic outcomes of students who attend schools with such programs. One study in particular found that at the initial use of a SBHC, students had a lower GPA when compared to the students who did not use the services at all. However, after a five-semester time period, those students who did use the SBHC had GPA's that increased over time when compared to students who did not use SBHC. Mental health service users had the steepest GPA increase over the five-semester time-period (Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010). Another study examined SBHC's and their effect on asthma management, grades, and attendance. It was found that the use of SBHC's resulted in fewer asthmatic symptoms, increased academic performance, and fewer asthma related absences (Clark et al., 2004). These programs, which offer health care services and provide general medical exams, could serve as a means of preventative health care and maintenance, therefore, increasing the amount of time students spend in the classroom (Walker et al., 2010). There is little question that students who spend more time in the classroom would have higher levels of academic performance.

### **Status of CSH Nationwide**

There is no current federal mandate for schools to implement CSH programs. There is however, a requirement included in the Child Nutrition and WIC Reauthorization Act of 2004 for school districts that are participating in the National School Lunch Program, or other child nutrition programs (i.e. School Breakfast

Program), to adopt and implement a school wellness policy (Chriqui et al., 2010).

Wellness policies are required at a minimum to include 1) goals for nutrition education, 2) guidelines for all foods available on the school campus, 3) goals for physical activity, and 4) a plan for measuring implementation (Chriqui et al., 2010). These requirements align with CSH nutrition and physical education environments at the school site.

Although these requirements of the wellness policies align with CSH, Chriqui et al. (2010) reported that many wellness policies include implementation plans, but fewer than 20% of students were in a district that required an evaluation of the implementation of the wellness policy. Evaluating and monitoring these wellness policies are important in order to determine the improvement of child health as well as improving the nutrition and physical activity environment of the school itself.

The Child Nutrition Reauthorization Healthy, Hunger-Free Kids Act of 2010 strengthened these school wellness policies as well as the nutrition standards for foods made available on school premises. As a result, wellness policies must include goals for nutrition promotion, and a plan for implementing and evaluating compliance with the plan (United States Department of Agriculture, Food & Nutrition Services [USDA FNS], 2010). These revisions strengthen wellness policies of schools, which at the same time support the implementation of CSH programs within schools (Let's Move, 2010).

The law also authorizes the USDA to set minimum nutritional standards for school meals as well as all foods sold in schools, including vending machines and a la carte foods; increase meal reimbursement by 6 cents per lunch; and provides funding for school food service personnel to receive training and technical assistance related to the healthful food preparation methods (Healthy, Hunger-Free Kids Act, 2010). These

changes are important because of their relationship to CSH and school stakeholders' concerns related to implementing CSH, specifically cost and need for training (Hildebrand & Sternlof, 2008).

### **CSH Status in Oklahoma**

Like the nation, Oklahoma does not require CSH programs to be implemented in schools. In 2004, the state of Oklahoma passed legislation requiring school sites to have a Healthy and Fit School Advisory Committee (Healthy & Fit Kids Act, 2004). This law is known as the Healthy and Fit Kids Act of 2004. The purpose of the group is to provide advice to the school administration, teachers, and other community stakeholders, regarding health issues, in order to create a healthy school environment to allow students to reach their potential (Healthy & Fit Kids Act, 2004). While not required, use of the SHI by the Healthy and Fit Advisory Committees could increase their effectiveness and efficiency in meeting the federal requirements in developing a school wellness policy. The extent to which this is happening is not known.

Currently in Oklahoma, there are two different types of CSH programs implemented: It's All About Kids (IAAK) and Schools for Healthy Lifestyles (SHL). IAAK is a prevention program that is sponsored by the Tulsa City-County Health Department, targeting schools in the Tulsa area. Its focus is elementary school-aged children, and it teaches healthy choices and habits for a bright future (THD, 2006). Currently, 18 schools are participating within three different school districts (THD, 2006). In a 2009-2010 preliminary report of findings of the IAAK program, statistically significant improvements were found in the knowledge, attitudes, and behaviors portion of the nutrition education, as well as significant improvements in the fitness testing of

their personalized exercise program (Muilenberg-Trevino, Myers Morgan, & Hellman 2010).

Schools for Healthy Lifestyles benefits elementary school communities all across the state of Oklahoma. All public elementary schools grades K through 6<sup>th</sup> in Oklahoma are eligible to apply. Currently, there are 28 school districts participating, which include 61 different elementary schools. These programs encourage physical fitness, proper nutrition, tobacco prevention, safety, and oral health education (SHL, 2006a). A program evaluation conducted in 2009 found that due to SHL, schools had a 36% increase in knowledge for food labels, 58% change in knowledge for nutrition facts, 41% increase in consumption of more fruits and vegetables per day, and a 33% increase in higher levels of reported physical activity (Schools for Healthy Lifestyles [SHL], 2006b).

A recent study conducted in Oklahoma, *An Evaluation of Coordinated School Health in Oklahoma*, compared the differences between schools implementing CSH in Oklahoma and those that were not (Hildebrand & Sternlof, 2008). The findings of the study were consistent with the existing literature, this includes students in schools that had CSH programs increased nutrition knowledge, tendencies of physical fitness, and exhibited greater increases in academic performance. It was found that schools not employing CSH, when compared to schools with CSH, had gaps in the practices and perceived effectiveness of their school's health environment.

One gap in particular was the implementation of health promotion programs for faculty and staff (Hildebrand & Sternlof, 2008). School-site health promotion for staff has received the least attention of the components of the CSH model (Eaton, Marx, & Bowie, 2007). Few states require schools to provide employee health or wellness

programs. However, those that have shown positive program results find it difficult, due to the varying design and implementation, to determine which features are most effective (Ryan, 2008). This makes it challenging to create a standardized program that will be effective in any school system. There is evidence however, that if teachers and staff have a personal interest in their own health, understanding the needs of their students' health will likely result (Allegrante, 1998). This is also consistent with the Oklahoma CSH study finding that teachers in school sites with CSH self-reported healthy lifestyles and felt more confident in their ability to teach health topics compared to the teachers in schools without CSH (Hildebrand & Sternlof, 2008).

### **Barriers to CSH Implementation**

Despite the relationship between school health programs and academic achievement of students, there continues to be numerous barriers to its implementation. One of the most often cited barriers is the need to meet federal academic performance requirements. The *No Child Left Behind* Federal Act of 2001 increased student performance and academic testing goals, creating pressure on school systems to spend as much time in the classroom as possible in order to meet these standards (Oklahoma State Department of Education [OSDE], 2009). This has forced many schools to decrease physical activity time, so that more time can be spent in the classroom (Cornwell, Hawley & St Romain, 2007).

For rural schools, the access of community resources was shown to have an effect on whether or not a CSH program was implemented (Cornwell et al., 2007). Due to the shortage of mental health services in the rural areas, one rural school district implemented school-based family counseling by utilizing a traveling therapist in order to integrate on-

site care. This strategy was to compensate for a mental health provider that was 40 miles away (Cornwell et al., 2007). Other districts have presented and distributed pertinent information to local business and community members to gain resources for psychological, counseling, and social service health needs, and how these resources contribute to the development of healthy self-esteem in the students of their school district (Cornwell et al., 2007). Because rural school districts have limited resources and are frequently in economically disadvantaged areas, Cornwell et al. (2007) recommends these districts to thoroughly investigate creative strategies to implement CSH due to its powerful potential in developing lifelong healthy lifestyle habits in students and positively impacting their academic performance.

Cho & Nadow (2004) discovered a barrier to school nutrition and education programs was the lack of parental involvement and support. This lack of involvement is attributed to increased work demands, combined with the absence of parental promotion within schools (Schetzina et al., 2009). In addition, Cho & Nadow (2004) found that parents did not always support health messages promoted by the school. For example, a common complaint schools received from parents was that their children did not like the healthy food options that were being provided, and preferred their children eat the junk foods. Clear and consistent nutrition messages cannot be attained without efforts put forth by school administration, staff, parents and the support of the community. Thus, the researchers concluded, “parental involvement is essential in encouraging students’ preference for healthy foods, which in turn influences the financial viability of quality lunch programs” (Cho & Nadow, 2004, pg. 428).

There is consistent evidence that a major barrier to the implementation of CSH is the lack of funding (Hildebrand & Sternlof, 2008; Deschesnes et al., 2003; Schetzina et al., 2009). Funding would allow for personnel to be properly educated and trained, which would allow for organizing, and facilitating proper nutrition education programs within the classroom and cafeteria (Cho & Nadow, 2004). In a review conducted by Ryan (2008), it was found that school administrators report that the primary barrier to employee health promotion programs is time and lack of funding. In contrast, the same study reported a cost/benefit savings of \$3.93 for every dollar spent on health promotion or related activities that are provided to employees.

In summary, while there are many benefits to implementing CSH, there are real and perceived barriers to school administrators and stakeholders. Because school site administrators' buy-in is essential in implementing a CSH program (Deschesnes et al., 2003), it is important to know their readiness to bring this change to the school environment. This insight will improve the process of communicating the positive health and academic effects that CSH has on students and serve as a motivating factor to bring about needed changes (Deschesnes et al., 2003).

### **Stages of Change**

Bringing about change, such as implementing CSH is a process rather than an event. The stages of change model consists of five different stages encountered during the process (Velicer et al., 1998). The stages include pre-contemplation, contemplation, preparation, action, and maintenance (Prochaska & Velicer, 1997).

Precontemplation is the stage in which intention to act is not in the foreseeable future. Those in this stage are either unaware, or under informed about the behavior or



problem, and have no intention to take action within the next 6 months (Velicer et al., 1998; Prochaska, DiClemente, & Norcross, 1992). Many in this stage are unwilling to recognize that there may be a problem that needs addressed (Prochaska et al., 1992).

Those in the stage of contemplation find that they have awareness that a problem or change needs to occur, and unlike precontemplation, have an intention to take action within the next 6 months. Those in this stage are trying to weigh the pros and cons of a problem, as well as a solution. This weighing of the pros and cons is known as decisional balance and is an integral part in decision-making (Prochaska et al., 1994). People can be stuck in this stage of indecision and serious consideration for a long period of time (Velicer et al., 1998; Prochaska et al., 1992).

Preparation is an important stage in which there is now an intention to act, usually occurring within the following month (Velicer et al., 1998). At this point the pros are now beginning to outweigh the cons, or crossover of decisional balance (Velicer et al., 1998). Although some action may have started to occur, generally the criterion for an effective action has still yet to be determined (Prochaska et al., 1992). It is during this stage and the action stage where self-efficacy, or confidence plays a role in having a relapse to a previous stage (Velicer et al., 1998).

Action is the stage in which efforts have been made and modifications are now in place. To be considered in the action stage, changes have had to be made anywhere from 1 day to 6 months (Velicer et al., 1998; Prochaska et al., 1992). This stage requires the most change and a considerable amount of commitment (Prochaska et al., 1992).

In the maintenance stage people are working to prevent relapse (Velicer et al., 1998). It is viewed as a continuation of what they have started in the action stage. As

they continue through their change, they become more confident in their ability and hopefully provide stability to their alteration (Velicer et al., 1998).

As previously mentioned, the balance between the pros and cons, otherwise known as decisional balance, is dependent upon which stage is currently encountered. During the contemplation stage, the pros start to outweigh the cons, unlike the precontemplation stage where the cons overshadowed the pros (Prochaska et al., 1994). As the stages progress to preparation and action stages, the pro items are favored over the con items. This change through the course of the stages leads to a crossover in the decisional balance, where there comes a point when the pros of an issue will outweigh the cons (Prochaska et al., 1994). Prochaska et al. (1994) found that this crossover generally occurs prior to the preparation stage.

Throughout each of these stages there are unique processes of change occurring. They provide insight as to differences in thoughts and behaviors (Prochaska et al., 1992). They can be divided into two categories, with the first 5 being experiential processes, and are used more often in the earlier stages of change. The second process of change is called behavioral processes, which are used, in the later stages (Velicer et al., 1998). When matched to a person's readiness to make change they are useful in guiding a successful intervention program.

Consciousness raising involves an increased level of awareness of the problem. Interventions include confrontation, observation, and interpretations (Velicer et al., 1998). This process is generally used during the precontemplation and/or the contemplation stage (Prochaska et al., 1992).

Dramatic relief includes disclosure of experiencing and expressing feelings about a problem or situation (Prochaska et al., 1992). Schools that are at risk of being placed on a 'low performing' list may experience this process. Contemplators are most often open to using dramatic relief where emotions are elevated leading to less focus on the negative (Velicer et al., 1998).

During environmental reevaluation the affect one's problem is having on the environment is revealed, while during self-reevaluation, how one views themselves in respect to their problem is revealed. Healthy role models become important in these processes (Velicer et al., 1998). These two processes can occur anywhere in precontemplation, contemplation, and preparation (Prochaska et al., 1992).

Self-liberation allows one to act on a commitment and believe in the ability to change. This process would likely occur during preparation, action, and maintenance stages. Also social liberation, which increases societal alternatives to the problem behavior, can occur during these same stages (Prochaska et al., 1992).

Stimulus control and counterconditioning are both processes useful anywhere from the preparation to the maintenance stages (Prochaska et al., 1992). Stimulus control involves changing the environment so that triggers or cues that bring about the problem behaviors are eliminated (Velicer et al., 1998). Counterconditioning consists of using alternatives for the problem behavior. Taking walks instead of snacking or offering non-food instead of candy for rewards instead of candy in school settings are examples (Prochaska et al., 1992).

Reinforcement management is most often found in the action and maintenance stage. This process includes the use of reward for a positive change. Likewise, helping

relationships is also found in these stages. Helping relationships is characterized by being open to trust those who care by building rapport and social support (Velicer et al., 1998).

The SOC model has been shown to be effective when assessing the stage of readiness for change and determine which type of intervention is needed to address a specific stage (Prochaska et al., 1992). It has also been found to be useful when assessing fruit and vegetable consumption in young adults (Ma et al., 2002). When Prochaska et al. (1994) examined twelve different problem behaviors, including smoking cessation, quitting cocaine, weight control, high-fat diets, adolescent delinquent behaviors, safer sex, condom use, sunscreen use, radon gas exposure, exercise acquisition, mammography screening, and physicians' preventative practice with smokers, the SOC model was found to be useful across a variety of populations and health behavior problems. This model does not make assumptions about individuals and their readiness to change, which makes it suitable to serve an entire population (Velicer et al., 1998). The SOC model is effective at measuring progress through each process of change, determining decisional balance, and ultimately the progression through the stages (Velicer et al., 1998).

The goal of this project is to use information obtained from the School Health Survey of Oklahoma School Principals in order to determine the stage of Oklahoma school principals' readiness to implement a CSH program in their respective school. Knowing the academic and health benefits of CSH programs, as well as determining principals' stage of readiness, will help inform policymakers and other stakeholders regarding decision making related to support of and implementation of CSH.

## CHAPTER III

### METHODOLOGY

#### **Survey Development & Subjects**

Prior to development of the School Health Survey of Oklahoma School Principals both Oklahoma State University and Oklahoma State Department of Health independently started communications with the Oklahoma State Department of Education (OSDE) to collect data from Oklahoma public school principals related to 1) readiness of school principals to implement CSH and 2) implementation of school health services and education, respectively. To reduce burden to school principals it was decided to develop one survey. Beginning Spring 2010, two previously drafted survey tools were combined into one document. The resulting survey was reviewed and approved by an OSDE Associate Superintendent. It consisted of 54 total items in three sections: 1) Coordinated School Health (19 items), 2) school health education and services (32 items), and 3) school site demographics (3 items). The survey was distributed to 1,725 Oklahoma public school principals, representing all Oklahoma public schools districts, by the OSDE Director of Physical Education and Health, using Survey Monkey software (Survey Monkey software, Pro Plan, 2010). A cover letter supporting the efforts and signed by the Oklahoma State Superintendent of Public Instruction was included (Appendix A).

The response period was October 27 through December 31, 2010. A reminder email was sent at mid-point.

The scope of this study is to assess the readiness of Oklahoma public school principals to implement coordinated school health, and as such will focus on the related survey items. Development of the survey items utilized the Transtheoretical Model (TTM) theory (Prochaska & Velicer, 1997), and was guided by findings from the *Evaluation of CSH in Oklahoma* study conducted during the 2007-2008 school year (Hildebrand & Sternlof, 2008). The items were reviewed for content validity by two researchers, one familiar with TTM theory and the second familiar with CSH. Two items served as an algorithm including, “does your school have a CSH program?” and “do you intend to implement at least one ore more CSH program components in your school?” respectively to assess the respondent’s readiness to implement CSH at the school site. Nine items assessed the respondents’ attitudes regarding the benefits and barriers (referred to as pros and cons by the TTM) of CSH and 7 items addressed the respondent’s perception of the school’s efficacy for implementing CSH. These questions used 5-point Likert scale responses where 1 = strongly agree and 5 = strongly disagree. The exception is one open-ended question asking for qualitative comments the respondent would like to share regarding perceived barriers and benefits of CSH (Appendix B). The Oklahoma State University Institutional Review Board reviewed the protocol and determined the study to be non-human research (Appendix C).

### **Statistical & Content Analyses**

Descriptive statistics were used to define the school settings the respondents’ represent. The two algorithm items were used to stratify respondents into 1 of 4 stages, 1

= pre-contemplation, 2 = contemplation, 3 = preparation, 4 = action/maintenance. After collapsing the three categories of grade classification (elementary, middle/junior high, and high school) into elementary and secondary school, an independent sample t-test was used to compare stage of readiness between elementary and secondary school levels. An independent sample t-test was also used to compare the stage of readiness between schools in rural versus urban/suburban settings, once the three categories (rural, urban, suburban) were collapsed into two. Once the 4 categories (<300, 301-699, 700-1000, >1000) were collapsed into three (<300, 301-699,  $\geq 700$ ), a one-way ANOVA was used to compare the stage of readiness in schools versus the size of school. The 4 barrier items and the 4 benefit items scores were summed to form 2 scales and converted to T-scores. The scores were charted to compare the relationship between scores and stage of change. A one-way ANOVA was used to compare the barrier and benefit items to the stage of readiness. A regression analysis was used to determine the correlation between each of the efficacy items and stage of change. Content analysis was conducted to identify themes in the principals' comments related to the barriers and benefits of CSH. SPSS version 19 was used with the significance level for all analyses set at  $p < 0.05$ .

The framework for organizing and analyzing the qualitative data was driven by benefits and barriers of implementing CSH that were identified in the literature. The procedure followed established content analysis protocols (Patton, 2002; Harris et al., 2009). These objectives were matched to units of dialogue. Multiple passes at reading the responses were made to identify and categorize data. The preliminary content analysis was reviewed by a second reader, and themes were agreed upon.

## CHAPTER IV

### FINDINGS

The demographic characteristics of the schools represented by the principals responding to the survey are summarized in Table 4.1. Principals were stratified into 1 of 4 stages of readiness using the algorithms in questions 2 and 3. A total of 29 principals were stratified into precontemplation (11 %), 57 in contemplation (21%), 17 in preparation (6%), and 166 in action/maintenance (62%). This information is summarized in Table 4.2.

Table 4.1 Demographic characteristics of responding schools

	<b>N</b>	<b>Mean ± SD</b>	<b><i>p</i>-value</b>
<b>Grade Classification</b>			
Elementary	88	3.18 ± 1.07	0.430
Secondary	41	3.34 ± 1.06	
<b>Geographical Classification</b>			
Rural	85	3.08 ± 1.13	0.016*
Urban/Suburban	44	3.52 ± 0.88	
<b>School Size Classification</b>			
<300	51	3.06 ± 1.09	0.118
301-699	63	3.27 ± 1.08	
≥700	14	3.71 ± 0.08	

Significance level set at  $p < 0.05$

SOC Codes:

1=Precontemplation; 2 = Contemplation; 3 = Preparation; 4 = Action/Maintenance



Table 4.2 Principals' stage of change for readiness to implement coordinated school health

<b>Stage of Change</b>	<b>N</b>	<b>%</b>
Precontemplation	29	11 %
Contemplation	57	21%
Preparation	17	6%
Action/Maintenance	166	62%
Total	269	100%

An independent samples t-test was conducted to compare the mean stage of readiness for elementary and secondary schools. There was no significant difference in mean readiness for elementary (M=3.18; SD=1.07), and secondary schools (M=3.34, SD=1.06)  $p=0.430$ . These findings are summarized in Table 4.1.

A separate independent samples t-test was conducted to compare the mean stage of readiness for rural and urban/suburban schools. The findings are summarized in Table 4.1. There was a significant difference in mean scores between principals in rural school settings (M=3.08; SD=1.13), and urban/suburban school settings (M=3.52; SD=0.88),  $p=0.016$ .

A one-way between-groups analysis of variance was conducted to compare principals' stage of readiness and school enrollment. Principals were divided into three groups, according to school enrollment (Group 1: <300; Group 2: 301-699; Group 3:  $\geq 700$ ). There was no statistical significance found in the readiness scores of principals for the three groups.

A one-way between-groups analysis of variance was conducted to compare principals' stage of readiness and pro and con scales T-scores. The findings are

summarized in Table 4.3. There were statistically significant differences found in the mean pro scales scores ( $p<0.001$ ), as well as the con scale scores ( $p=0.018$ ). The post-hoc comparisons using the Tukey HSD test indicated the significant differences for pro scores existed between each pair wise comparison of stages with principals in the earlier stages having lower mean pro scores compared to principals in higher, precontemplation (M=49.09, SD=0.75), contemplation (M=49.76, SD=0.98), preparation (M=50.20, SD=0.96), action/maintenance (M=50.20, SD=0.96). The post-hoc comparison using the Tukey HSD test indicated the significant differences for mean con scores was between principals in the precontemplation stage and action/maintenance stage, with principals in the earlier stage of change having a higher mean score (M=50.47, SD=1.10) compared to mean scores of principals in the higher stage (M=49.90, SD=0.96).

Table 4.3 Mean pro and con scale scores for principals' stage of change to implement coordinated school health

	<b>SOC</b>	<b>N</b>	<b>Mean T Score ± SD</b>	<b>p-value</b>
<b>Pro-Scale</b>	Precontemplation	26	49.09 ± 0.75 <sup>a</sup>	0.001*
	Contemplation	49	49.76 ± 0.98 <sup>b</sup>	
	Preparation	16	50.42 ± 0.79 <sup>bc</sup>	
	Action/Maintenance	148	50.20 ± 0.96 <sup>cd</sup>	
<b>Con-Scale</b>	Precontemplation	26	50.47 ± 1.10 <sup>a</sup>	0.018*
	Contemplation	49	49.93 ± 0.96 <sup>ab</sup>	
	Preparation	16	50.40 ± 1.13 <sup>ab</sup>	
	Action/Maintenance	148	49.90 ± 0.96 <sup>b</sup>	

Significant differences between values with different superscripts, at  $p<0.05$

To better understand the particular pro and con factors influencing these scores, a one-way between-groups analysis of variance was conducted to compare principals' stage of readiness with each pro item, and con item. The findings are summarized in Table 4.4. There were statistically significant differences between groups for each of the pro items, ( $p < 0.001$ ). These items include, 1) students' academic performance will improve with the implementation of a CSH program, 2) students' attendance will increase as a result of implementing a CSH program, 3) teachers and staff will be better role models of desired nutrition, physical activity, and health habits if a CSH program is implemented, and 4) students will have fewer disciplinary issues as a result of implementing a CSH program. In addition, there was a statistically significant difference for one of the con items, that being teachers' need for more professional development to teach nutrition, health and physical education curriculum, ( $p = 0.002$ ).

The post-hoc comparison using the Tukey HSD test indicated the significant differences for each pro item existed between each pair wise comparison of stages, with principals in the earlier stages having lower mean scores compared to principals in higher stages. The post-hoc comparison using the Tukey HSD test indicated the significant differences for the con item existed between precontemplation and contemplation stages, as well as precontemplation and action/maintenance stages.

Table 4.4 Mean scores of pro and con scale items related to principals' stage of change to implement coordinated school health

		<b>N</b>	<b>Mean ± SD</b>	<b>p-value</b>
Academic performance will improve (Pro-1)	Precontemplation	26	3.46 ± 0.65 <sup>a</sup>	<0.001*
	Contemplation	49	4.00 ± 0.74 <sup>b</sup>	
	Preparation	16	4.38 ± 0.62 <sup>bc</sup>	
	Action/Maintenance	148	4.29 ± 0.68 <sup>cd</sup>	
Student attendance will increase (Pro-2)	Precontemplation	26	3.38 ± 0.64 <sup>a</sup>	<0.001*
	Contemplation	49	3.90 ± 0.74 <sup>b</sup>	
	Preparation	16	4.31 ± 0.60 <sup>bc</sup>	
	Action/Maintenance	148	4.23 ± 0.76 <sup>cd</sup>	
Teachers & staff will be better health role models (Pro-3)	Precontemplation	26	3.50 ± 0.71 <sup>a</sup>	<0.001*
	Contemplation	49	3.84 ± 0.85 <sup>abc</sup>	
	Preparation	16	4.38 ± 0.72 <sup>b</sup>	
	Action/Maintenance	148	4.12 ± 0.76 <sup>c</sup>	
Fewer student disciplinary issues (Pro-4)	Precontemplation	26	3.00 ± 0.85 <sup>a</sup>	<0.001*
	Contemplation	49	3.45 ± 0.79 <sup>ab</sup>	
	Preparation	16	3.94 ± 0.68 <sup>b</sup>	
	Action/Maintenance	148	3.78 ± 0.87 <sup>bc</sup>	
Teaching nutrition, health, and physical education takes too much time (Con-1)	Precontemplation	26	2.73 ± 1.08	0.178
	Contemplation	49	2.37 ± 0.97	
	Preparation	16	2.63 ± 1.02	
	Action/Maintenance	148	2.30 ± 1.03	

Teachers will need more professional development (Con-2)	Precontemplation	26	4.00 ± 0.85 <sup>a</sup>	0.002*
	Contemplation	49	3.41 ± 0.93 <sup>b</sup>	
	Preparation	16	3.94 ± 0.85 <sup>ab</sup>	
	Action/Maintenance	148	3.34 ± 0.97 <sup>bc</sup>	
Healthful foods will reduce income from food fundraisers (Con-3)	Precontemplation	26	3.15 ± 1.19	0.967
	Contemplation	49	3.12 ± 1.17	
	Preparation	16	3.25 ± 1.39	
	Action/Maintenance	148	3.20 ± 1.07	
Takes time for staff to coordinate health services (Con-4)	Precontemplation	26	4.15 ± 0.61	0.274
	Contemplation	49	3.90 ± 0.71	
	Preparation	16	4.06 ± 0.57	
	Action/Maintenance	148	3.89 ± 0.70	

Significance level set at  $p < 0.05$

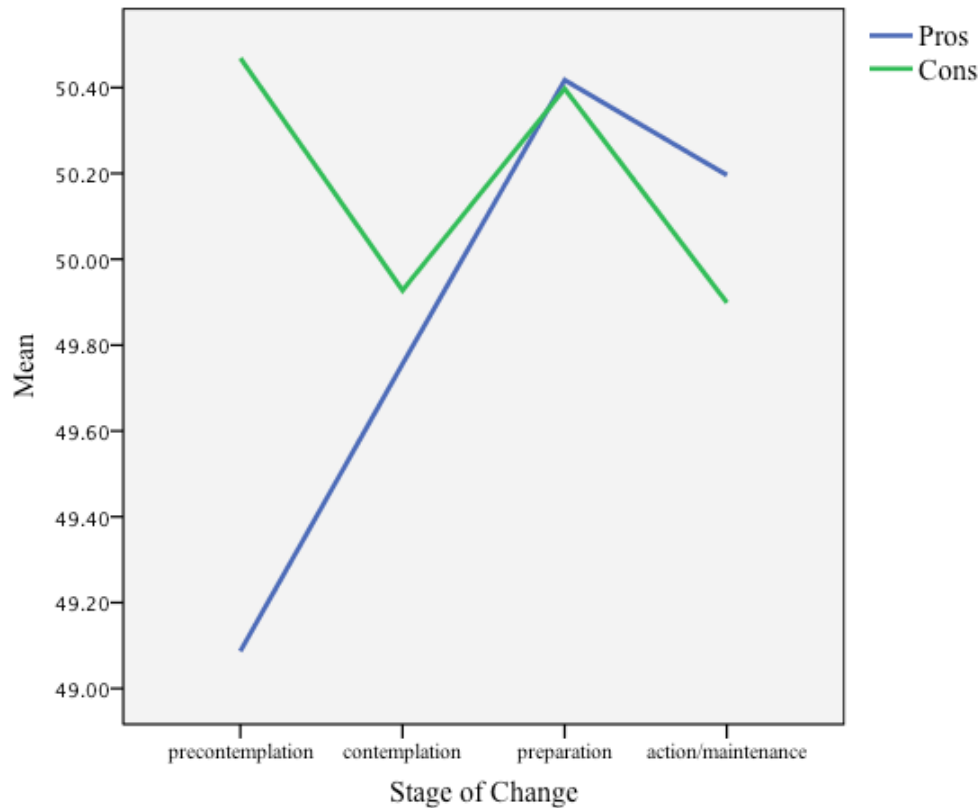
Pro and con scale response options:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree

Significant difference between values with superscripts, at  $p < 0.05$

In order to determine decisional balance, pro and con items were converted to T-scores. Results are reported in Table 4.3. Principals in the precontemplation stage had a higher T-score for the con scale, when compared to the pro scale. The opposite was true once in preparation and action/maintenance stages. The point at which the pro scale score exceeded the con score occurred just before the stage of preparation. This is demonstrated in Figure 4.1.

Figure 4.1 Decisional balance: pro and con scale scores by principals' stage of change to implement coordinated school health



A standard multiple regression analysis was used to assess the ability of the seven efficacy measures to predict principals' stage of readiness to implement CSH. These measures included, 1) teachers at this school support and understand their role in a school health program, 2) state and federal funding is available for implementation of CSH programs, 3) nutrition, health and physical education can be integrated into core curriculum areas to meet Priority Academic Student Skill (PASS) requirements, 4) parents in our community are willing to be involved in nutrition, health, and physical education programs at school, 5) food service personnel at our school use healthful menu planning principles and food preparation methods, 6) the district's school board provides the needed support for a CSH program, and 7) the local community has the needed health care and social services to collaboratively support a CSH program. The findings are

summarized in Table 4.5. The model as a whole explained 20.9% variance in the principals' stage of readiness ( $R=0.209$ ). The two items providing the unique contributions were teachers at this school support CSH ( $p=0.011$ ), and the district's school board provides the needed support of a CSH program, ( $p=0.039$ ).

Table 4.5 Efficacy of items to predict principals' stage of change for implementing coordinated school health

<b>Efficacy Items</b>	<b>Beta</b>	<b><i>p</i>-value</b>
Teachers at this school support and understand their role in a school health program	-0.181	0.011*
State and federal funding is available for implementation of a CSH program	-0.074	0.260
Nutrition, health and physical education can be integrated into core curriculum areas to meet Priority Academic Student Skill (PASS)	-0.082	0.200
Parents in our community are willing to be involved in nutrition, health, and physical education programs at school	-0.097	0.160
Food service personnel at our school use healthful planning principles and food preparation methods	-0.077	0.249
The district's school board provides the needed support for a CSH program	-0.154	0.039*
The local community has the health care and social services to collaboratively support a CSH program	-0.045	0.514

Significance level set at  $p < 0.05$

Efficacy scale response options

1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; 5 = Strongly Disagree

A total of 55 (23%) principals responded to the optional open-ended question, which asked for additional items they thought decision makers should know regarding implementation of CSH. The content analysis revealed several emergent themes reflecting what school principals’ perceived as benefits and barriers to CSH. These findings are summarized in Table 4.6. The majority of the themes addressed barriers including lack of funding, lack of time, conflict with achieving students’ academic requirements, lack of access to health services, amount of staff, and time to train the staff. Although most of the comments were related to barriers to CSH, a few did mention benefits they believe result from CSH programs. The primary theme was recognition of the positive effect health has on students’ academic performance.

Table 4.6 Emergent themes related to barriers and benefits for implementing coordinated school health

<b>Themes and Representative Responses Reflecting Barriers to Implementing CSH</b>	
<b>Funding</b>	<p>“We can do nothing extra at our school without money. We will be cut even more this year. Please don’t mandate anything without complete funding!”</p> <p>“Teachers and staff need the funds to provide students with adequate equipment and supplies for a coordinated school health program.”</p> <p>“We must be given the necessary funding.”</p> <p>“More accountability with less and less funding.”</p>



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<b>Time/Academic Requirements</b>	<p>“The biggest barrier is the amount of time required already to teach the core curriculum areas. There is barely enough time to teach those in normal day.”</p>
	<p>“Too much to do, too little time!”</p>
	<p>“Teachers are already fearful of their jobs if the students cannot pass all the mandated tests required by the state already. They have tons of paperwork now and are stressed to the max with all the additional work involved with the academic.”</p>
	<p>“I believe that a coordinated school health program takes time and planning but I believe that everyone wants to help these days to make a difference for our children.”</p>

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<b>Access to Health /Community Services</b>	<p>“No businesses in our community for support.”</p>
	<p>“Community involvement.”</p>
	<p>“Many children do not have access to healthcare due to lack of services initiated within the community and at home. If there was a clinic at school then more children would be seen and the health status of the students would improve.”</p>

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<b>Training Staff</b>	<p>“We need some kind of required training with some kind of studies which show the need and what happens with kids without this in schools.”</p>
	<p>“The staff needed to coordinate and plan consistent instruction and implementation is a barrier.”</p>
	<p>“...but questions arise concerning funding for materials and especially staff, securing time within the school day, age appropriate training for staff...”</p>

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## Themes and Representative Responses Reflecting Benefits of Implementing CSH

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<b>Relationship Between Health &amp; Academic Performance</b>	“...less students out due to illness.”
	“...long term improvement of health of students and adults.”
	“The benefits are more than can be mentioned. Students have to be healthy in order to perform academically as well as healthy in all other areas!”
	“With stronger health/physical fitness programs we will see grades improve and behavior issues decrease.”

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## CHAPTER V

### DISCUSSION AND CONCLUSIONS

The purpose of this project was to better understand the readiness of Oklahoma school principals to implement Coordinated School Health programs. It used information obtained from questions 1-19 and demographic items in the School Health Survey of Oklahoma School Principals administered in October through December 2010. It was determined that of the 269 principals that completed the items of interest, almost 1/3 were in the precontemplation and contemplation stages, and nearly 2/3 of the respondents were in the action/maintenance stages. The distribution of principals across stages was similar to distribution trends seen in half of the 12 problem behaviors studied by Prochaska et al. (1994). The differences in principals' stage of readiness are likely related to geographical location of the school rather than grade classification and size of the school. In addition, those in higher stages had a positive decisional balance compared to those in lower stages.

It was found that a larger percentage of principals in rural schools were in the preparation stage of readiness while principals representing urban/suburban schools were more often classified as closer to the action/maintenance stage. The significance found between stage of readiness and geographic location of the principals provided important insight into the availability of resources in rural communities that may be impeding

implementation of CSH. This finding also emerged in the content analysis of responses to the open-ended question in which school principals reported lack of access to health/community services in some communities. In a study conducted by Cornwell et al. (2007) lack of, or low accessibility to resources was a factor as to whether or not CSH programs were implemented. In a second study, school administrators in schools with CSH attributed their successes to the ability to collaborate with community organizations and resources that provided needed funding and support (Hildebrand & Sternlof, 2008). It seems logical that rural schools may have fewer opportunities to collaborate with these organizations and have limited availability to resources. For these reasons, creative ways to access the necessary resources and organizations in these areas are needed.

The pros of coordinated school health programs better described differences in principals' stage of readiness than did the cons. The statistical analyses revealed differences between principals' in lower stages compared to principals in higher stages for each of the pro items and one of the con items. The benefits included academic performance, improved attendance, fewer discipline problems, and teachers and staff serving as health role models. In the study conducted by Hildebrand & Sternlof (2008) in Oklahoma elementary schools found that Academic Performance Index scores in schools with CSH increased by a greater percentage over a 5-year period compared to schools without CSH. This difference helps to explain why principals in higher stages more strongly agreed with the academic benefits related to CSH compared to principals in lower stages.

The one con item that described differences in principals' readiness to implement CSH was the belief that teachers would need more professional development, with

principals in lower stages more strongly agreeing with the statement than principals in higher stages. In addition, the regression analysis identified teachers supporting and understanding their role in CSH programs as a predictor of principals' readiness to implement the program. These findings corroborate the qualitative findings from the *Evaluation of CSH in Oklahoma* study in which teachers in schools without CSH felt less prepared to teach health topics compared to teachers in schools with CSH (Hildebrand & Sternlof, 2008). The combination of these findings indicates that both teachers and principals agree that additional training is needed to support implementation of CSH.

Principals within all four stages tended to agree that 'it takes faculty/staff time to coordinate with the community health care and social services that are needed to support a school health program'. This is consistent with the content analysis indicating time was a barrier to implementing CSH. Previous studies have suggested that school administrators and principals had concerns that teaching health would take away classroom time to teach core academic curriculum (Hildebrand & Sternlof, 2008; Cornwell et al., 2007). In contrast, principals in all stages tended to disagree or were neutral about the time needed to teach nutrition, health and physical activity in the classroom. Combined with the finding that principals in lower stages felt teachers would need additional professional development, it is possible that it is the time to coordinate the program and train teachers rather than classroom time that is the greater concern. This assumption is logical in that principals in higher stages agree that students' academic performance improves with the implementation of CSH.

Funding is a barrier consistently identified in the literature as a barrier to implementation of CSH (Hildebrand & Sternlof, 2008; Deschesnes et al., 2003; Schetzina

et al., 2009). The quantitative data revealed that principals in all stages were neutral regarding loss of income from fundraisers if only healthy foods are allowed in the school environment. In contrast, the issue of funding emerged as a strong theme in the qualitative analysis. Consistent with Cho & Nadow's (2004) research, this concern may be more strongly related to training of teachers and personnel to coordinate the program rather than to loss of funds related to fund raising.

Consistent with the TTM, the tip in principals' decisional balance occurred just prior to the preparation stage (Prochaska et al., 1994). In other words, principals who are in the later stages placed less importance in the cons and may have learned ways to address and overcome them, and the pros were more important because of the benefits provided to the school environment and students.

In conclusion, it was found that principals' stage of readiness to implement CSH was not as high in rural schools as in urban/suburban schools, and that the accessibility and availability of resources were likely not as abundant in rural areas. Time to coordinate CSH programs and training for teachers were other consistent barriers that may be related to lack of funding.

### **Recommendations**

It was important to determine the degree of readiness of Oklahoma school principals in order to determine the best methods and messages to tip decisional balance of principals in lower stages and move them into a higher SOC to implement CSH. Messages should be matched to a principal's stage of change, and should also target teachers and school board members in that their support seemed to account for the greatest variance in principals' readiness to implement CSH.

For principals in the precontemplation stage, who may not even be considering programs such as CSH, it is important they first become aware of CSH programs and their positive association with academic performance. A message appropriate for principals in the contemplation stage is the sharing of successful strategies to collaborate with community partners, especially in rural areas of the state where resources may be more limited. This sharing of strategies also applies to training teachers to integrate CSH into core academic curriculum.

For principals in preparation stages concrete ideas to implement CSH are most appropriate. In that teachers' support and understanding their role in CSH and school boards' support accounts for the greatest variance in principals' readiness, it may be useful to target messages to these groups in schools without CSH. This might be accomplished by encouraging principals to engage parents, teachers and school board members in using the SHI to identify both assets and needs related to the school health environment and develop an action plan for implementing a CSH program that is consistent with local needs (Sherwood-Puzzello et al., 2007). Making small changes in the school environment identified through the SHI action plan and initiated by a variety of stakeholders may help teachers and other stakeholders better understand their role and support the program. Other concrete ideas are sharing information about existing school health programs available to schools throughout Oklahoma. Examples include Schools for Healthy Lifestyles and Alliance for a Healthier Generation (SHL, 2006b; Alliance for a Healthier Generation, 2011). Both programs provide schools with action planning, training and curriculum resources, which may help eliminate principals' concern for

funding to obtain the resources. All of these strategies are consistent with the change processes of counter conditioning and stimulus control (Velicar et al., 1998).

Finally, those principals in the action/maintenance stage reported their schools were already implementing CSH. To help sustain these programs, it may be useful to connect school personnel in schools with CSH with personnel in schools who have not yet implemented CSH. Allowing them to share their successes with schools in pre-action stages enables them to serve as role models and leaders. Conversely, they could connect with other schools that have an implemented CSH program and exchange ideas, as well as have a support system when unanticipated barriers arise. These strategies have the potential to strengthen their commitments to CSH and are consistent with the behavior change processes of reinforcement and helping relationships (Velicer et al., 1998).

With these findings and recommendations, it is encouraging that all schools throughout the state of Oklahoma will one day be able to implement CSH, thereby improving the health of their faculty and students, and their academic performance, without the worry of allocating time, money, or resources.

### **Limitations**

There were limitations to this study that should be addressed. The percentage of principals starting the survey was 15% with only 7% completing the survey in total. However, a majority (87%) of those starting the survey completed the first 19 questions, which were the focus of this report. A study looking at response rates for email surveys with a follow-up reminder found rates of approximately 25% (Kaplowitz, Hadlock & Levine, 2004). The number of surveys with the items of interest completed was 269. This number is slightly less than the 300 needed to identify trends in a population in



which approximately 50% of the population is expected to have a particular characteristic with a confidence interval of 95% and a 5% margin of error (Warde, 1990; Malec, 1993).

Nothing is known about the principals who did not respond. As such, those principals that chose to respond may have had a greater interest in school health issues, which could create a bias in the collected data and limit generalization.

Despite these limitations, the findings reveal practical trends that provide important insight for school health professionals promoting the use of CSH among school principals, as well as policy, and decision makers throughout the state of Oklahoma.

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## APPENDICES

## Appendix A



**SANDY GARRETT**  
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION  
STATE OF OKLAHOMA

October 26, 2010

Dear Principal:

There is little doubt that students who are physically, mentally, and emotionally healthy perform better in school. A study recently conducted in Oklahoma indicated schools that have coordinated school health programs had a higher percentage increase in the Academic Performance Index (API) scores over a five-year period than schools without school health programs. Other studies found a relationship between school health programs and academic performance of students. However, schools should not be expected to resolve all of the social and health issues of the student population.

As such, the Oklahoma State Department of Education, Oklahoma State Department of Health, and Oklahoma State University's College of Human Environmental Sciences are interested in (1) Assessing the magnitude of health-related issues faced by schools, (2) A better understanding of Oklahoma school principals' beliefs and barriers related to coordinated school health programs, and (3) Identifying the school health strategies, practices, and resources currently in place. To this end, an electronic survey titled *School Health Survey of Oklahoma Principals* (SHSOSP) has been developed.

Your participation is voluntary, but encouraged in order to have a wide representation of schools and a clear description of issues related to school health. All responses are anonymous; neither researchers nor state agencies will be able to identify you or your school. The information learned from the survey results will be aggregated by school site size and shared with state agencies and legislators in decision-making processes.

Completing the SHSOSP will take approximately 15 minutes of your time. To expedite completion, you may desire to print the survey and share it with other school staff (school counselor, school nurse, etc.) that can assist you in collecting data. All responses should be related to the 2010-2011 school year.

The survey link is <<http://www.surveymonkey.com/SHSOSP>>. It will be active until Monday, November 22, 2010. If you have any questions regarding the intent of a specific question or the use of the aggregated data, you may contact Project Coordinators: Dena Hildebrand at (405) 744-5059 or by email at <[dena.hildebrand@okstate.edu](mailto:dena.hildebrand@okstate.edu)>; or Barbara Smith at (405) 271-4471 or by email at <[barbarads@health.ok.gov](mailto:barbarads@health.ok.gov)>.

Thank you for your time in completing the survey so that informed decisions can be made regarding school health programs.

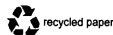
Sincerely,

A handwritten signature in black ink that reads "Sandy Garrett".

Sandy Garrett  
State Superintendent

SG:lp

OKLAHOMA STATE DEPARTMENT OF EDUCATION  
2500 NORTH LINCOLN BOULEVARD, OKLAHOMA CITY, OK 73105-4599  
(405) 521-3301, FAX: (405) 521-6205  
<http://sde.state.ok.us>



## Appendix B

(Only the related survey items are included in the appendix.)

### School Health Survey of Oklahoma School Principals

#### 1. Introduction Page

The purpose of this survey is to 1) assess the magnitude of health related issues faced by schools, 2) better understand Oklahoma school principals' beliefs and barriers related to coordinated school health programs, and 3) identify the strategies and practices currently in place. It is a joint project of the Oklahoma State Department of Education, Oklahoma State Department of Health, and Oklahoma State University College of Human Environmental Sciences. The findings will be used by state agencies and legislators in decision making processes.

The information you provide will be aggregated for collection and reporting purposes. It will not be possible for researchers or state agencies to match you or your school with responses.

Please answer questions relative to the 2010-2011 school year.

If you are interrupted or need to pause while taking the survey you may exit by clicking the "exit this survey" button in the upper right hand corner. You may return at your convenience to finish the survey by clicking on the link in the cover email.

DEFINITION: A coordinated school health program consists of an integrated, systematic, and comprehensive approach to school health. Schools alone cannot and should not resolve all the social and health problems of today's student population. However, they do provide an environment in which families, community organizations, health care workers, educators, and youth can join forces to address student health and safety issues.

#### 2. School Health Implementation

**1. The coordinated school health model developed by the Centers for Disease Control and Prevention consists of 8 components: 1) health education; 2) physical education; 3) health services; 4) nutrition services; 5) counseling and psychological services; 6) school environment; 7) staff wellness; and 8) family/community involvement.**

**Are you aware of the coordinated school health program model developed by the Centers for Disease Control and supported by the Oklahoma State Department of Health?**

Yes

No

**2. Does your school have a coordinated school health program?**

Yes

No

#### 3.

## School Health Survey of Oklahoma School Principals

### 3. Do you intend to implement at least one or more coordinated school health program components in your school?

- Yes, we are making an action plan for the next school year.
- Yes, we are beginning to think about it.
- No, we do not have intentions to implement a coordinated school health program.

## 4. Beliefs and Attitudes Related to School Health Programs

For each of the following statements, please indicate your level of agreement.

### 4. Students' academic performance will improve with the implementation of a coordinated school health program.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

### 5. Students' attendance will increase as a result of implementing a coordinated school health program.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

### 6. Teachers and staff will be better role models of desired nutrition, physical activity and health habits if a coordinated school health program is implemented.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

## School Health Survey of Oklahoma School Principals

**7. Students will have fewer disciplinary issues as a result of implementing a coordinated school health program.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**8. Teaching nutrition, health, and physical education takes too much time away from teaching core curriculum areas.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**9. Teachers at this school will need more professional development to teach nutrition, health, and physical education curriculum.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**10. Requiring healthful food options through out the school building will reduce income from vending machines, snack bars, and other school fund raisers.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

## School Health Survey of Oklahoma School Principals

**11. It takes faculty/staff time to coordinate with the community health care and social services that are needed to support a school health program.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**12. Teachers at this school support and understand their role in a school health program.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**13. State and federal funding is available for implementation of coordinated school health programs.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**14. Nutrition, health and physical education can be integrated into core curriculum areas to meet Priority Academic Student Skill (PASS) requirements.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree



## School Health Survey of Oklahoma School Principals

**15. Parents in our community are willing to be involved in nutrition, health and physical education programs at school.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**16. Food service personnel at our school use healthful menu planning principles and food preparation methods.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**17. The district's school board provides the needed support for a coordinated school health program.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

**18. The local community has the needed health care and social services to collaboratively support a coordinated school health program.**

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

## School Health Survey of Oklahoma School Principals

**19. Please describe additional thoughts you have related to the barriers or benefits of coordinated school health programs.**

## 26. School Demographics

**53. Which type of geographical area best describes the location of your school?**

- Rural
- Suburban
- Urban

**54. Which grade classification best describes your school?**

- Elementary
- Middle/junior high school
- High school

## School Health Survey of Oklahoma School Principals

**55. How many students are enrolled at the school site where you currently work?**

- Less than 300 students
- 301 to 699 students
- 700 to 1,000 students
- More than 1,000 students

**27.**

Thank you for your time to complete the survey. The information you provided will help state agencies better understand your situations and serve your needs.

## Appendix C

Oklahoma State University Institutional Review Board		<b>REC'D URG</b> NOV 28 2010
<b>Request for Determination of Non-Human Subject or Non-Research</b>		
<p><i>Federal regulations and OSU policy require IRB review of all research involving human subjects. Some categories of research are difficult to discern as to whether they qualify as human subject research. Therefore, the IRB has established policies and procedures to assist in this determination.</i></p>		
<b>1. Principal Investigator Information</b>		
First Name: Sheri	Middle Initial: L	Last Name: Glazier
Department/Division: NSCI		College: Human Sciences
Campus Address: 301 Human Sciences		Zip+4: 74078-6141
Campus Phone: 405-744-5059	Fax: 744-1357	Email: sheri.glazier@okstate.edu
<b>Complete if PI does not have campus address:</b>		
Address: RR 1 Box 6AB		City: Loyal
State: OK	Zip: 73756	Phone: 405-368-7051
<b>2. Faculty Advisor (complete if PI is a student, resident, or fellow) <input type="checkbox"/> NA</b>		
Faculty Advisor's name: Deana Hildebrand		Title: Asst. Professor/Extension Specialist
Department/Division: Nutritional Sciences		College: Human Sciences
Campus Address: 301 Human Sciences		Zip+4: 74078-6141
Campus Phone: 405-744-5059	Fax: 405-744-1357	Email: deana.hildebrand@okstate.edu
<b>3. Study Information:</b>		
A. Title BETTER UNDERSTANDING THE READINESS OF OKLAHOMA SCHOOL PRINCIPALS IN IMPLEMENTING COORDINATED SCHOOL HEALTH		
B. Give a brief summary of the project. (See instructions for guidance)		
<p>The purpose of this study is to better understand the status of school health programs in Oklahoma. It is a joint project of the Oklahoma State Department of Education (OSDE), Oklahoma State Department of Health and Department of Nutritional Sciences. Data was collected using an anonymous, electronic survey sent to school principals throughout Oklahoma. The response period for the survey was October 27 through December 31, 2010. The survey focused on school, teacher and community attitudes toward health education, rather than information about the principals. Only questions 1-19 and the demographic information were used for this study. No intervention was conducted. The information gained from the study will be used to guide development of messages that promote school health programs with decision makers.</p>		
C. Describe the subject population/type of data/specimens to be studied. (See instructions for guidance)		
<p>The electronic survey was distributed to 1725 Oklahoma public school principals using a list serve supplied by the OSDE Director Physical Education and Health using Survey Monkey software.</p>		
<b>4. Determination of "Research".</b>		
Revision Date: 04/2006 <span style="float: right;">3 of 5</span>		

Oklahoma State University Institutional Review Board  
**Request for Determination of Non-Human Subject or Non-Research**

**45 CFR 46.102(d):** *Research* means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities which meet this definition constitute research for purposes of this policy whether or not they are conducted or supported under a program which is considered research for other purposes.

**One of the following must be "no" to qualify as "non-research":**

- A. Will the data/specimen(s) be obtained in a systematic manner?  
 No  Yes
- B. Will the intent of the data/specimen collection be for the purpose of contributing to generalizable knowledge (the results (or conclusions) of the activity are intended to be extended beyond a single individual or an internal program, e.g., publications or presentations)?  
 No  Yes

**5. Determination of "Human Subject".**

**45 CFR 46.102(f):** *Human subject* means a living individual about whom an investigator (whether professional or student) conducting research obtains: (1) data through intervention or interaction with the individual or (2) identifiable private information. Intervention includes both physical procedures by which data are gathered (for example venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes. Interaction includes communication or interpersonal contact between investigator and subject. Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

- A. Does the research involve obtaining information about living individuals?  
 No  Yes  
**If no, then research does not involve human subjects, no other information is required.  
If yes, proceed to the following questions.**

**All of the following must be "no" to qualify as "non-human subject":**

- B. Does the study involve intervention or interaction with a "human subject"?  
 No  Yes
- C. Does the study involve access to identifiable private information?  
 No  Yes
- D. Are data/specimens received by the Investigator with identifiable private information?  
 No  Yes
- E. Are the data/specimen(s) coded such that a link exists that could allow the data/specimen(s) to be re-identified?  
 No  Yes  
If "Yes," is there a written agreement that prohibits the PI and his/her staff access to the link?  
 No  Yes

**6. Signatures**

Signature of PI Sheri Magier Date 11-28-2011  
Signature of Faculty Advisor Deana Hildebrand Date 11-28-2011

Oklahoma State University Institutional Review Board  
**Request for Determination of Non-Human Subject or Non-Research**

(If PI is a student)

- Based on the information provided, the OSU-Stillwater IRB has determined that this 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.**
- Based on the information provided, the OSU-Stillwater IRB has determined that this research **does** qualify as human subject research and **submission of an application for review by the IRB is required.**

  
Dr. Sheila Kennison, IRB Chair

11/28/11  
Date

VITA

Sheri Glazier

Candidate for the Degree of

Master of Science

Thesis: BETTER UNDERSTANDING THE READINESS OF OKLAHOMA  
SCHOOL PRINCIPALS IN IMPLEMENTING COORDINATED SCHOOL HEALTH

Major Field: Nutritional Sciences

Biographical:

Education:

Completed the requirements for the Bachelor of Science in Nutritional Sciences  
at Oklahoma State University, Stillwater, OK in 2010.

Name: Sheri Glazier

Date of Degree: May, 2012

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: BETTER UNDERSTANDING THE READINESS OF OKLAHOMA  
SCHOOL PRINCIPALS IN IMPLEMENTING COORDINATED SCHOOL HEALTH

Pages in Study: 66

Candidate for the Degree of Master of Science

Major Field: Nutritional Sciences

Scope and Method of Study: There is evidence to suggest that school health programs are one of the most efficient ways to reduce risky behavior and prevent health problems in children, however, many school health programs, specifically Coordinated School Health (CSH), are not implemented in many schools. The scope of this study was to assess the readiness of Oklahoma public school principals to implement CSH. Data for the study was collected from the School Health Survey of Oklahoma School Principals. Using the stages of change model, a two-item algorithm was used to determine the level of readiness for the 269 responding principals to implement CSH at their school. Independent sample t-tests were used to compare stage of readiness by grade classification and geographical classification of the responding schools that the principals represent. A one-way ANOVA was used to compare the stage of readiness versus the size of school. Four barrier and four benefit items were converted to T-scores and compared to stage of readiness. A regression analysis was used to determine correlation between efficacy items and stage of change. Finally, a content analysis was conducted to identify themes in the principals' comments.

Findings and Conclusions: It was found that nearly 1/3 of the respondents were in the precontemplation and contemplation stages, and almost 2/3 of principals were in the action/maintenance stages. Principals in rural areas seem to be in a lower stage of readiness compared to those in urban areas. Items that best predicted principals' readiness to implement CSH were, teachers understanding and supporting their role in the program, and support from the school district's school board. In addition, principals in lower stages felt that teachers needed more professional development to implement CSH. This information can be used in developing state appropriate messages for principals and decision makers regarding the need of Oklahoma schools so that funding, time and community resources can be allocated appropriately and ultimately improve the health of faculty and students.

ADVISER'S APPROVAL: Dr. Deana Hildebrand

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