RESEARCH PROPOSAL

How can student health literacy inform key stakeholders regarding school wellness policy implementation?

L-8 - Can pose questions and use methods of formal inquiry to answer questions and solve problems.

L-9 - Can analyze the effectiveness of wellness policies in public schools.

Adenia Linker

DePaul University

10 July 2012

I. THE PROBLEM AND IT'S SETTING

A. STATEMENT OF TOPIC:

Public education in America has come under increased criticism following the No Child Left Behind (NCLB) legislation enacted in 2002. This policy attempted to increase the accountability of school districts regarding specific academic measurements, and required schools to adopt standards-based education as well as maintain aggressive achievement standards. Impacting both failing and successful schools and nearly 1000 pages in length, NCLB represents the first significant reform since the Elementary and Secondary Education Act of 1965 (Noddings 15). Today's reform movement requires that all students be proficient in math and reading by 2014 (Noddings 14) and requires schools to offer annual tests in third to eighth grade and once in high school (Noddings 14).

NCLB legislation did not mandate achievement goals for physical education and many school districts focused their attention and resources on academics. This has resulted in a significant reduction or elimination of recess and physical education. Considering the population wide decline in physical activity, and epidemic rates of juvenile diabetes and obesity (Benham-Deal et al 81) public health advocates found some solace when The Reauthorization Act of 2004 required the development of school wellness policies for schools receiving meal assistance (Lambert, Monroe and Wolff 271; Longley and Sneed 95).

Topics covered in health education vary by state and district and include: physical fitness, safety, nutrition, asthma awareness, mental health, as well as prevention of alcohol/drug use, foodborne illness, HIV, STD, pregnancy, suicide, tobacco-use and violence. One Center for Disease Control and Prevention (CDC) study found that 6.4% of elementary schools required instruction on all 13 topics. The

same study found comprehensive health education at 20.6% of middle schools and 35.8% of high schools (Facts: Learning for Life 1). A 2002 Institute of Medicine (IOM) released report identified health literacy as an "important, cross-cutting theme to address in any efforts to reduce ethnic and racial health disparities" (Sanders et al S312). The CDC developed school wellness guidelines (Young et al 42) and recommended:

- Establishing policies that promote physical activity.
- Providing environments that encourage safe and enjoyable physical activity.
- Implementing quality, daily physical activity instruction and curricula.
- Implementing health education that provides students with knowledge and needed behavioral skills.
- Providing sufficient training for personnel involved in physical activity instruction or promotion.
- Providing inclusive extracurricular approaches that meet the needs and interests of all students.

B. STATEMENT OF PROBLEM:

During the 2011-2012 school year, 404,151 children attend Chicago Public Schools. Eighty-seven percent of these students come from low-income families (Chicago Public Schools: Stats and Facts 1). The Consortium to Lower Obesity in Chicago Children found that 22% of Chicago children are overweight before entering school, more than double the national average (Vevea 1). According to the CDC, if obesity rates remain unchanged, 30% of boys and 40% of girls born in 2000 will be diagnosed with diabetes (Health Education in Schools 2), a statistic that clearly argues the importance of health literacy

for CPS students beyond just "three most important preventative measures: not smoking, maintaining a healthy weight, and exercising regularly" (Health Education in Schools 1).

Experts now refer to the American lifestyle as an "obesogenic" environment, one that promotes weight gain through factors such as the decrease in home cooking and breakfast consumption, portion distortion, advertising and greater food availability (Stride Institute 4). Nearly two-thirds of the U.S. adult population is overweight or obese (Health Education in Schools 1) and the number of Americans with diabetes has doubled in the last 15 years to 14.6 million in 2005 (Coleman et al 23). Additional research finds one in three American adults has limited health literacy (Sanders et al S307). Obesogenic behaviors are so great that the Department of Public Health now requires preschool and daycare centers to limit screen time (television and computer) to less than 60 minutes a day, and reiterates the need for a minimum of 60 minutes of physical activity (Vevea 1). The Health Literacy report published by the (IOM) highlights the significant role and direct influence that schools have in routine literacy and the importance of enhancing health literacy as a goal within literacy skills (Manganello 842).

Writing in the *Journal of School Health*, Kolbe states "today, the major causes of death, disability, injury, and illness among young people… result from a few patterns of behavior that become established during school-age years" (226). Although health literacy may seem of concern only for those in public health, these preventable behaviors (e.g. alcohol and drug abuse, sexual behaviors, tobacco use, unhealthy diets, and physical inactivity) are as Kolbe continues "taxing our health care, health insurance, and underlying economic systems to the breaking point" (226) and warrant early intervention and prevention measures (Manganello 840). According to the CDC's Healthy Youth initiative, the school day provides 54 million American students the opportunity to learn the skills that support healthy

lifestyles and behaviors (Health Education in Schools 1), however, as Noddings implores “the currency of accountability in education is standardized testing“ (41).

Public school wellness education appears to be inadequately and unequally provided nationally. The focus on academic testing is having a negative impact on wellness education in public schools. One study found that only 5.9% of third graders attend physical education classes daily, and those students only averaged 4.8 minutes of vigorous activity (Barroso et al 313) while an extensive study of seventh and eighth graders found older students do not move during recess (Stride Institute 8). Another concern according to the Stride Institute, “in large PE classes, 60% of time is spent doing no activity at all” (8). While state standards vary, it’s highly likely that CPS students are experiencing similar limited PE programs.

In 2010 the U.S. Department of Health and Human Services added “improved consumer health literacy” to its objectives. Health literacy is defined as: "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Brown, Teufel and Birch 8); essential skills for the growing population of youth suffering from chronic asthma, diabetes, cystic fibrosis and mental illness (Manganello 841). Considering no other institution has as much contact with children (Haire-Joshu et al 2) schools must foster health literacy in the classroom for children who depend on public schools to build these skills (Brey, Clark and Wantz 640).

The public school, as Noddings points out, “should be a place where children learn to make intelligent, well-informed choices” (75); however, the case of a 15-year old Hispanic in the Bronx who compared diabetes to a cold, shows how student’s health literacy needs might be met through a “popular science” class to learn about disease, diet, exercise, calculating calories, interpreting blood

pressure/sugar (Noddings 36). The Institute of Medicine recommends health programs be designed to improve health literacy, health behaviors and health outcomes, academic achievement, and social outcome (Kolbe 227). One such example, developed by Brey, Clark and Wantz, recognized the strength of the media's influence on adolescent's as a health resource and utilized that developmental interest to motivate the learning experience (641). Another study found that peer educator models were "one of the most effective strategies for disseminating prevention information" (Coleman et al 23). These are both examples of "well-designed, well-delivered school-based health interventions" designed to inform and enable students to prevent disease and injury" (Health Education in Schools 3).

While "some school systems are beginning to recommend or require health literacy as a component for graduation," (Sanders et al S310) most offer only one semester in health (Noddings 48), and I am unaware of any requirement for CPS students. Given the current economic climate and school budget cuts, what is needed are significant systems where "the easier or default choice is the healthy choice" at no cost to the school (Stride Institute 4). Dr. Stephanie Whyte, the recently announced Chief Health Officer for Chicago Public Schools, will certainly be considering such challenges. Her appointment, which reports to both the Chicago Public Schools and the Chicago Department of Public Health, represents a critical partnership necessary for community wide health literacy ("New Chief Health Officer").

STATEMENT OF QUESTION:

In this study, I recommend researching the question: How can CPS students' health literacy data inform key stakeholders regarding the effectiveness of their school wellness policy implementation?

STATEMENT OF HYPOTHESIS:

I propose to test the following hypothesis: CPS students' health literacy data can inform key stakeholders regarding the effectiveness of their school wellness policy (SWP).

Delimitations

This study will not include the Chicago suburbs nor any other areas that are not served by Chicago Public Schools. No students who have transferred from another school system during the school year will be included. This study will exclude grades 1-2, 4-7, and 9-11.

Definitions

For the purpose of this study, key terms will be defined as follows:

- Health literacy: the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions; health knowledge, attitudes, and skills (Brown, Teufel and Birch 8; Manganello 1).
- Key stakeholder: a term borrowed from business acumen indicating a party who can affect or be affected by the outcome of an event or in this case, by a school wellness policy (e.g. school board of education members, physical education department specialists, state public health nutrition directors, health education teachers, school food service directors, school nurses, social workers, and counselors, school wellness advocates; and teacher, parent and student representatives).
- Effectiveness: Physical Education and Health standards exist with goals for movement skills, physical fitness, team building, health promotion, prevention and treatment, human body systems, and communication and decision-making ("ILS Goals"). These goals are documented in 20 assessment rubrics covering all grade levels ("ILS Assessments").

- School wellness policy (SWP) includes:
  - Nutrition: healthy eating, which is associated with reduced risk of many diseases, including the three leading causes of death – heart disease, cancer and stroke – and is important in childhood and adolescence for proper growth and development and can prevent obesity, dental caries, iron deficiency anemia, and other health problems (Chicago Public School Wellness Policy 1).
  - Nutrition Education: planned, sequential, K-12 curriculum or supplemental education program that addresses the physical, mental, emotional, and social dimensions of health related to nutrition. (Chicago Public School Wellness Policy 1) and is aligned with NHES and Illinois Learning Standards (Chicago Public School Wellness Policy 2).
  - Physical Education: (PE): planned sequential K-12 curriculum that provides cognitive content and learning experience in a variety of activity areas (Chicago Public School Wellness Policy 2).
  - Physical Activity: (PA): movement that reduces the risk of premature mortality in general and of coronary heart disease, hypertension, colon cancer and diabetes in particular (Chicago Public School Wellness Policy 1); enables students to remain active and maintain high level of personal fitness, emphasizes self-management and is consistent with Illinois Learning Standards (Chicago Public School Wellness Policy 4).

Assumptions

For the purpose of this research, I assume that:

Public schools will continue to be required to provide meal and food services, and wellness education to their students. Schools will need to supplement what might be considered the family's responsibilities in some areas e.g. healthy eating.

Health literacy needs will continue to increase as more American children are diagnosed with chronic illnesses.

II. REVIEW OF THE RELATED LITERATURE

A. MAJOR ISSUES EXPLORED BY SCHOLARS WHO HAVE RESEARCHED THIS TOPIC AND PROBLEM

Significant research exists identifying the barriers that prevent the proper administration of high-quality school wellness policies. Most scholars identify the top issues facing school districts and systems today as: lack of time and funding, competing priorities, and lack of key stakeholder support (Agron et al 533; Barroso et al 316; Hammerschmidt et al 63; Lambert, Monroe and Wolff 271; Longley and Sneed 100; Noddings 2; and Young et al 45). These barriers can be correlated to the NCLB mandates that placed academic achievement above all other learning; it's most damaging impact through its corrupting influence to manipulate data, seek loopholes, trigger cheating and drain financial resources (Noddings 7).

Lack of time is obvious when you consider only 5.9% of Texan 3rd graders had PE five times a week (Barroso et al 313), and 84% of elementary schools complain of insufficient time for PE (Hammerschmidt et al 66). Assuring daily physical education is important because "children [are] more active after school on days that they [have] PE than on days they did not (Benham-Deal et al 84) and research finds that both healthy and unhealthy behaviors established by sixth grade will remain intact

throughout high school (Bauer, Yang and Austin 36). Adolescents, as Manganello declares, "are at a crucial stage of development, learning skills that will carry with them into adulthood" (840), and physical education classes can be optimal in establishing healthy lifelong habits (Barroso et al 313).

Allocation of financial resources to academic subjects leaves little funding for wellness programming. Adequate funding was the number one barrier to effective school wellness policy development, implementation, and monitoring cited in a 2010 national survey (Agron et al 533). Lack of funding interferes with nutrition education at 67% of elementary and 45% of high schools (Hammerschmidt et al 66) while 39% of elementary schools and 41% of high schools lack the funding to facilitate physical activity (Hammerschmidt et al 67). Some argue that physical education programs would receive more funding and attention if they were considered "essential" in formal education (Barroso et al 316), an opinion voiced by many beyond just physical education specialists (Young et al 45).

Obtaining sufficient facilities and PE equipment is obviously critical and a major barrier for 53% of middle schools (Young et al 45). Student's perception of proper facilities and adequate resources should also be considered and such investments should be**,** as Noddings insists**,** "provided as a matter of decency" (2). Environmental factors such as large class size prevent high-quality physical education experiences (Barroso et al 315), and competition for the limited slots on organized teams is negatively impacted by a lack of sufficient coaches, playing space and equipment (Bauer, Yang and Austin 39). Dr. John Ratey, author of SPARK: The Revolutionary New Science of Exercise and the Brain, finds that less than 3% of Americans participate in team sports beyond age 24 (17), reminding us that competitive sports interest do not result in lifelong physical activity. Students reported staff making negative comments regarding athletic ability of some students, while other observations suggested open gym

programming favored boys sports and activities. Another critical reflection involved the limited number of coaches, equipment and spots on sports teams resulting in a great deal of competition for the coveted team positions (Bauer 38-39). When surveying middle and high schools students regarding their motivation whether, or not, to participate, students demonstrated a high awareness that physical activity promotes health with over 70% of responses noting "It makes me healthier" (Couturier, Chepko and Coughlin 3). When asked about their experience with the variety of activities offered, a majority, over 75% wanted to choose their activities, while 45% "do not like doing the same activities every year" (Couturier, Chepko and Coughlin 3). Additionally 64% of respondents disliked "going to my next class all sweaty" while 53% disliked "not having enough time to change and shower" (Couturier, Chepko and Coughlin 3).

Another dominant barrier is conflicting priorities (Agron et al 533, Benham-Deal et al 89, Hammerschmidt et al 63, Longley and Sneed 100, Young et al 45). When schools divert their resources and focus to academics in preparation for standardized testing, it prevents implementation of high quality daily physical education (Agron et al 533, Benham-Deal et al 90; Hammerschmidt et al 66). Thirty-two percent of high schools also report "too much focus on state-mandated testing to have time to focus on nutrition education" (Hammerschmidt et al 66). According to the Center for Urban Education, students in CPS are taking standardized tests every five weeks (Vevea 2).

Several schools reported that other activities "prevent quality programming and suggest that physical education is simply not highly valued within the school," a feeling confirmed by 20 of 36 Physical Education department heads (Young et al 45). As many as 25% of PE classes are shortened or cancelled in favor of other activities (Young et al 46) such as picture days and science fairs. A 2005 study suggested that physical education be integrated more fully "into school policies and evaluation, such as

a component of the academic assessment scores of schools" (Barroso 316). Unfortunately, a study of low-income schools also found nutrition had no priority at 54% of high schools and 33% of elementary schools surveyed (Hammerschmidt et al 66). When Greves and Rivara reviewed the largest school districts in the nation, responsible for a collective of 5.9 million children or 11% of students (3), they found no district that met the IOM's recommendations for preventing obesity (9).

Research finds that national enrollment in physical education begins to decline in high school, however one study found this decline was starting in junior high in Wyoming (Benham-Deal et al 84). In 1995, 91% of elementary and 93% of secondary schools in Wyoming reported having a written school physical education curriculum. However, when those schools were revisited a decade later, only 78% of elementary and 73% of secondary schools had a written curriculum in place representing a considerate decline. This is particularly interesting considering Wyoming has always seen physical education as a core curriculum subject, and schools have been required to provide standards based physical education as well measure their achievements (Benham-Deal et al 81). Exposing the declining use of curriculum, illuminates the vulnerability nearly every school district in the nation feels when balancing their students health needs with academics demands.

Dependence on fundraising with non-nutritious foods conflicts with upholding nutrition guidelines supporting Boles and colleagues findings that "even in the presence of nutrition education policies, food of minimal nutritional value remains available" (5). Inadequate funding of field trips for example, often prompts schools to resort on sales of snacks and sodas that dismiss the messages encouraged by nutrition education (Bauer, Yang and Austin 41). Today's schools often utilize non-nutritional food for fundraising and contract with junk food vendors to sponsor their sports teams. These branded fast food and beverage contracts, coupled with soda vending in 61% of middle schools

and 75% of high schools (Greves and Rivara 7) send conflicting messages that undermine individual student health behaviors. The use of fast food such as Pizza Hut™ and McDonalds™ is also employed even while those foods do not meet nutrition requirements (Greves and Rivara 4) while another challenging barrier was the presence of unhealthy food on campus either brought from home or used as a classroom reward (Stride Institute 13). In a national study, 63% of food service directors found that the food in fundraising is a barrier (Longley and Sneed 100). According to assessment of the nation's 51 largest school districts, no school districts "included after-school fundraising or concession sales as part of their policies (Greves and Rivara 4). Another study found 31-45% of SWP omitted foods used as fundraising, parties and classroom rewards (Probart et al 1499).

A 2004 study of students and staff found the poor quality and palatability of food served in the cafeteria to be a significant barrier to healthy nutrition. Staff at these middle schools also felt that eliminating the junk food around campus would be difficult because the funds were necessary to support academic activities for low-income families. (Bauer, Yang and Austin 41). A CPS teacher secretly blogged a photo gallery and details of her experience with school lunches served at her school where 90% of the students qualified for free and reduced meals. Meals of mystery meat, heavily processed chicken, and hot dogs covered in soggy dough are some of the foods documents during her 162 meal blog-based journal, the same meal her students depended on. Almost 32 million kids are served lunch at school daily, and most schools are struggling to find meals that kids will enjoy that include enough fruit and vegetables (Hellmich 2).

Today's youth are vulnerable to both traditional morbidity issues like communicable diseases and "new morbidities" such as eating disorders, sedentary lifestyle and obesity, the soon to be number one preventable killer in the US (Stride Institute 36). Some teaching staff voices the concern "we cannot

have cupcakes or cookies on holidays" (Lambert, Monroe and Wolff 274) and "when I was in school we didn't have a [school wellness plan], and I still made it," (Stride Institute 36) highlighting that today's teachers may not fully appreciate how these new morbidities impact their classroom and students. Teachers may not recognize the value and need for classroom nutrition competencies that support the SWP (Lambert, Monroe and Wolff 275).

The National Health Education Standards (NHES) recommend that all educational disciplines (math, reading and social studies curricula) incorporate health literacy competencies (Sanders et al S310), however, one study of elementary school teachers found only 30% include nutrition competences into their lessons, and an alarming 75% of teachers were not confident that they would have time to attend profession development were it available (Lambert, Monroe and Wolff 274). This speaks to the current low priority SWP have with key stakeholders, as only 10% of those interviewed felt adequately recognized for their efforts (Lambert, Monroe and Wolff 274). Accountability to NCLB ties key stakeholders to student academic success discouraging allocation of resources and time to non-academic material. Food service directors also noted lack of support and felt NCLB was a barrier for teachers and principals (Longley and Sneed 100).

Interviews from key informants emphasize that a wellness coordinator or dedicated person to guide wellness initiatives, along with long-term top-level commitment form administrators and school boards would significantly improve current efforts (Agron et al 533). Agron's team found that administrators are limited in their capacity to train for or implement wellness within their school environment (533) and often, differing opinions regarding which wellness policy tools to utilize hinders decision-making (533). School board members are more optimistic regarding effectively implementing and monitoring the policy when compared to those actually expected to carry out those activities,

suggesting a lack of understanding about what is actually involved in carrying out wellness goals (Agron et al 534).

Support and resources necessary to reduce the financial and time barriers educators face will likely be slow and inadequate, therefore key stakeholders must consider additional means to improve their student's health literacy. Student's individual and collective perception and awareness of physical education and nutrition goals can provide key stakeholders with critical information that may not previously have been considered when planning and implementing a comprehensive SWP.

B. METHODOLOGIES UTILIZED BY SCHOLARS TO RESEARCH THIS TOPIC AND PROBLEM

The scholarly research studies and other articles identified used a variety of research methodologies, including focus groups and interviews; however, the majority depended on web-based surveys and data. Several of these studies were announced, administered and followed up on exclusively via web interaction. Administrators and education stakeholders were more likely to be surveyed, with few studies seeking input from students, confirming the need for additional research on early adolescent health literacy (Brown, Teufel and Birch 8; Manganello 840).

Young and her team, for example, selected 36 schools from a pre-established field trial group, and conducted a group of phenomenological interviews. Interviews with school principals, physical education and health education department heads, and school-based physical activity program leaders involved questions ranged from policy to curriculum and included frequency and participant's gender. This study focused on the barriers for adolescent girls, however, did not interview them which significantly limits the resulting data. Another extensive study that did not include students directly was an wide-ranging two-year study conducted by the Stride Institute evaluating the wellness polices of a

large county. It included five interviews with key informants, direct observation of physical activity, a plate waste study and photo documentary, and modified school health index scorecards analysis. While an extensive collection of data, it did not include any students' perspective, and the qualitative data was limited to a single school.

Several studies that included focus groups, also utilized online surveys as well. Hammerschmidt and her colleagues surveyed 69 key stakeholders including classroom, health and PE teachers, school nurses, food services and parents via online surveys, and supplemented their research with 56 contributions via seven focus groups made of teachers, administrators, food service, and health coordinators. A much larger qualitative study, by Agron and her colleagues was conducted based on an online survey representing all 50 states by way of 2350 respondents (1296 school districts) with 37 school board members participated in focus groups, representing 17 states as well. Four separate online surveys were designed for each focus group: state school board members, state school board association leaders, state public health nutrition directors, and school wellness advocates, however there were no teachers or students included in this study. One valuable finding of this study, the recommendation for schools to have dedicated wellness coordinators prompts several questions for my proposed study.

Another group of key stakeholders who have had limited voices in the research are the physical education teachers. Benham-Deal and her colleagues designed a study, based on questionnaires distributed in 1995 and 2005 via mail and email exclusively to physical education teachers in each elementary and secondary school in all of Wyoming's 48 school districts. Results of the self-reporting 45 open-ended and closed questions demonstrate the value of longitudinal data, however, is limited to quantitative analysis compared to larger studies. Another cross sectional study based on physical

education specialists' surveys was conducted by Barroso et al. Approximately 150 respondents self reported barriers allowing for trend analysis over the last four years. This data was invaluable in developing questions for my study, especially when considering a study of web-based SWP research that found policies retrieved via the web were substantively different than on-site. Supplemental data from site visits remain significant when collecting SWP data (Chriqui et al 8-9).

Finally collecting the voice of student stakeholders, Bauer, Yang and Austin conducted a phenomenological study using two suburban public middle schools with ethnic and socioeconomic factors representative of the surrounding community. The study participants were derived from an 80% white student body where less than 10% of students were eligible for free or reduced meals. Forty-nine focus groups included 26 students and 23 faculty were conducted including seventh and eighth grade students. Individual interviews were conducted with key informants including cafeteria managers, PE directors, school nurses and guidance counselors. The discussion topics are relevant as I design my study, however, ethnic and economic factors of the subjects are not consistent with the urban population that interests this researcher. Couturier, Chepko and Coughlin conducted another study of student stakeholders by surveying middle and high schools. Over 5,300 urban school students completed the survey, offered in both Spanish and English, in their physical education class. The questions pertained to reasons for participating or not participating in physical education, and while not including habits, established the value of student's voices. Brown and colleagues attest "adolescents in the US and elsewhere can validly and reliably self-report their own emotional, behavioral, psychological, and somatic health" (9). Student's answers can predict interest in learning and motivation to follow what is learned (Brown, Teufel and Birch 13), and therefore inform curricula developers and program providers.

III. PROPOSED RESEARCH METHODOLOGY

A. DATA OR EVIDENCE TO BE COLLECTED

Recognizing that "students themselves could be resources for addressing some of the obstacles" (Couturier p 6), I plan to conduct field research on the health literacy of Kindergarten, third, eighth and twelfth grade students. I will collect data regarding individual nutrition, and physical activity and education to determine how school wellness policies are impacting health literacy. I will also collect data regarding current SWP implementation and the student's perceptions of SWP implementation.

1. DESCRIPTION OF THE DATA

The student questionnaire will explore health terms and concepts, snack and beverage frequency, and physical activity. Responses will demonstrate health knowledge, attitude and skills as well as critical thinking. Surveying early adolescents using questions based on NHES provides data that can be used to improve the delivery of health education and ultimately to increase health literacy (Brown, Teufel and Birch 8). Focus groups involving students and wellness committee members as well as on-site data collection regarding to SWP implementation will also be sought.

2. WHERE THE DATA ARE LOCATED

All of CPS's 474 elementary schools, 106 high schools, 87 charter campuses and eight contract schools ("Chicago Public Schools: Stats and Facts" 1) will be considered. Students in grades Kindergarten, third, eighth and twelfth grades will be surveyed and included in the randomized focus groups.

B. TECHNIQUES FOR COLLECTION OF DATA

My research will employ both quantitative and qualitative methods of data collection. I will conduct a survey using four standardized questionnaires, one for each grade level being surveyed. Questionnaires will be distributed and collected during a single PE class, which will ensure a high completion rate resulting in a significant cluster sampling from each school.

Similarly, I will conduct a stratified sample school campuses (e.g. neighborhood, selective enrollment, charter and contract), conducting face-to-face qualitative interviews with students in preferred grade levels and the wellness committee members. I will use a combination of open-ended and multiple-choice questions during these interviews. Case files for all respondents will be developed, consisting of dates of contact and information collected during that visit. All sessions will be recorded and transcribed.

Finally, an audit of SWP implementation will be done at the same schools where the focus groups are conducted. Data for the preferred grade levels will include: contact hours of nutrition education and activities; minutes of physical education; and measuring moderate vs. vigorous activity in recess. Data for the school will include: verification of planned, sequential, curriculum for K-12 physical education; number of attendees to community programs, after school programs and recess participation; use of loss of recess as a punishment or of food as classroom reward; and measuring wellness committee conduct such as including students, and parents in membership, and annual evaluations as per policy.

C. METHODS OF ANALYSIS

The questionnaire will contain both closed and open-ended questions, requiring two different forms of analysis. Numerical data will be calculated based on quantitative responses, while qualitative responses will be categorized according to emerging themes. School wellness policy implementation and health demographics, will be triangulated with the student questionnaire and focus group qualitative themes.

1. HOW THE DATA WILL BE EXAMINED FOR ITS MEANING

Data will be examined for interaction and indirect effects, and the final analysis will determine:

- A baseline of health literacy at studies grade levels.
- Relationship between student health and environment due to SWP implementation.
- What factors can key stakeholders utilize to improve wellness programming.

2. HOW DATA WILL BE PRESENTED

This observational research will generate a large cross-sectional data collection on health literacy and school wellness. An area map will identify participating schools, while pie charts and graphs will present both the school wellness policy implementation data and the ordinal data from the questionnaire. A qualitative content analysis will provide a narrative report of the dominant themes identified in the focus groups. Additionally, transcription of focus group interviews and field notes will be included.

IV. OUTLINE OF THE FINAL REPORT

A final report will be designed to include the following:

Title page

Acknowledgements

Table of Contents

List of Tables

List of Figures

Chapters

The Problem and its Setting

Review of Related Literature

Research Methodology

The Results

Appendixes

V. EXPECTED OUTCOMES

Educational stakeholders are responsible for the whole child: intellectual, social, emotional and physical. Research regarding the health of American public school students is extremely important for the education, public health and government partners whose mission includes improving health outcomes in our youth. Such partners include not-for-profits like the American Diabetes Association, public health systems such as the Chicago Public Health Department, professional organizations including the National School Boards Association, and philanthropists like the Robert Wood Johnson Foundation.

This research will serve public health professionals in the both Chicago and the nation by providing a rich assessment of public school wellness and the impacts of wellness policies on their health literacy. Individual schools and the district as a whole can build longitudinally by repeating this

study in the future. This research and additional studies that will follow illuminate the student's world for those key stakeholders who impact school wellness polices and funding.

Lastly, this research can be used by education key stakeholders and reform advocates to target improvement efforts regarding policy implementation, and react with evidence-based practices and programming.

WORKS CITED:

"The Quality of School Wellness Policies and Energy-Balance Behaviors of Adolescent Mothers" *Preventing Chronic Disease: Public Health Research, Practice, and Policy* 8 (2011): 1-13. Directory of Open Access Journals. Print.

"FACTS: Learning for Life - Health Education in Schools." American Cancer Society, American Diabetes Association and American Heart Association. Web.

"Health Education in Schools – The Importance of Establishing Healthy Behaviors in our Nation's Youth." American Cancer Society, American Diabetes Association and American Heart Association. 1-5. Web.

Agron, Peggy, Victoria Berends, Karen Ellis and Martin Gonzalez. "School Wellness Policies: Perceptions, Barriers, and Needs Among School Leaders and Wellness Advocates." *Journal of School Health* 80.11 (2010): 527-535. Academic Search Complete. Print.

Barroso, Cristina S., Christine McCullum-Gomez, Deanna M. Hoelscher, Steven H. Kelder and Nancy G. Murray. "Self-Reported Barriers to Quality Physical Education by Physical Education Specialists in Texas." *Journal of School Health* 75.8 (2005): 313-319. Academic Search Complete. Print.

Bauer, Katherine W., Wendy Yang and S. B. Austin. ""How Can We Stay Healthy when you're Throwing All of this Front of Us?" Findings from Focus Groups and Interviews in Middle Schools on Environmental Influences on Nutrition and Physical Activity." *Health Education & Behavior* 31 (2004): 34-46. SAGE Publications. Print.

Benham-Deal, Tami, Jayne M. Jenkins, Tristan Wallhead and Mark Byra. "The Impact of State Standards on Physical Education in Wyoming - A Decade of Change." *Physical Educator* 64.2 (2007): 81-93. Academic Search Complete. Print.

Boles, Myde, Julia A. Dilley, Clyde Dent, Miriam R. Elman, Susan C. Duncan and Donna B. Johnson. "Changes in Local School Policies and Practices in Washington State After an Unfunded Physical Activity and Nutrition Mandate." *Preventing Chronic Disease: Public Health Research, Practice, and Policy* 8.6 (2011): 1-13. Directory of Open Access Journals. Print.

Brey, Rebecca, Susan E. Clark and Molly S. Wantz. "Enhancing Health Literacy Through Accessing Health Information, Products and Services: An Exercise for Children and Adolescents." *Journal of School Health* 77.9 (2007): 640-644. Academic Search Complete. Print.

Brown, Stephen, James A. Teufel and David A. Birch. "Early Adolescents Perception of Health and Health Literacy." *Journal of School Health* 77.1 (2007): 7-15. Academic Search Complete. Print.

Chicago Public Schools. "*Chicago Public Schools: Stats and Facts*" Chicago Public Schools, 2012. Web. Accessed February 15, 2012. <http://www.cps.edu/about_cps/at-a-glance/pages/stats_and_facts.aspx>

Chicago Public Schools. "*Local School Wellness Policy Addressing Nutrition and Physical Activity in Schools*" Chicago, 2006. 1-7. <http://policy.cps.k12.il.us/download.aspx?ID=81> Web.

Chicago Public Schools. *Chicago Public Schools: Stats and Facts.* Chicago, 2012.Budd, Elizabeth L., Scoie Green and Michael Elliott.

Chriqui, Jamie F., Michael Tynan, Tanya Agurs-Collins and Louise C. Masse. "Will web-based research suffice when collecting U.S. school district policies? The case of physical education and school-based nutrition policies." *International Journal of Behavioral Nutrition and Physical Activity* 5 (2008): 1-9. Print.

Coleman, Karen J. and Andrea Yoder Clark, Maggie Shordon, Leticia L. Ocana, Chris Walker, Rachel A. Araujo, Jesica Oratowski-Coleman, and Athena Philis-Tsimikas. "Teen Peer Educators and Diabetes Knowledge of Low-Income Fifth Grade Students." *Journal of Community Health* 36 (2011): 23-26. Education Research Complete. Print.

Couturier, Lynn E., Steveda Chepko and Mary A. Coughlin. "Student Voices - What Middle and High School Students Have to Say about Physical Education." *Physical Educator* 62.4 (2005): 1-9. EBSCOhost. 2 February 2012. Print.

Gaines, Alisha B., Steven R. Lonis-Shumate and Sareen S. Gropper. "Evaluation of Alabama Public School Wellness Policies and State School Mandate Implementation." *Journal of School Health* 81.5 (2011): 281-287. Academic Search Complete. Print.

Greves, H. M. and Frederick R. Rivara. "Report card on school snack food policies among the United States' largest school districts in 2004-2005: Room for improvement." *International Journal of Behavioral Nutrition and Physical Activity* 3 (2006): 1-10. Academic Search Complete. Print.

Haire-Joshu, Debra; Byron Yount, Elizabeth Budd, Cynthia Schwarz, Rebecca Schermbeck, Scoie Green, and Michael Eliott. "The Quality of School Wellness Policies and Energy Balance Behaviors of Adolescent Mothers." *Preventing Chronic Disease: Public Health Research, Practice and* Policy. 8.2 (2011): 1-13. Directory of Open Access Journals. Print.

Hammerschmidt, Patricia, Wendy Tackett, Matthew Golzynski and Diane Golzynski. "Barriers to and Facilitators of Healthful Eating and Physical Activity in Low-income Schools." *Journal of Nutrition Education and Behavior* 43 (2011): 63-68. Academic Search Complete. Print.

Hellmich, Nanci. USA Today, *She ate cafeteria food, lived to blog about it*, USA Today, October 5, 2011. EBSCOhost. Web. 15 February 2012. <http://web.ebscohost.com.ezproxy2.lib.depaul.edu/ehost/detail?vid=14&hid=108&sid=f56a15ae-b0dc-472a-a835-46ab5f8caf7f%40sessionmgr13&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=J0E080221204911>.

Illinois Learning Standards: Physical Development & Health Assessments and Descriptors. Illinois State Board of Education. <http://www.isbe.net/ils/pdh/capd.htm>. Web. 10 March 2012

Illinois Learning Standards: Physical Development & Health Goals & Standards. Illinois State Board of Education. <http://www.isbe.net/ils/pdh/standards.htm> Web. 10 March 2012.

Kolbe, Llloyd. "A Framework for School Health Programs in the 21st Century." *Journal of School Health* 75.6 (2005): 226-228. Academic Search Complete. Print.

Lambert, Laurel G., Ann Monroe, and Lori Wolff. "Mississippi Elementary School Teachers' Perspectives on Providing Nutrition Competencies under the Framework of Their School Wellness Policy." *Journal of Nutrition Education and Behavior*. 42.4 (2010): 271-276. ScienceDirect Freedom Collection 2012. Print.

Local School Wellness Policy Addressing Nutrition and Physical Activity in Schools. Chicago Public Schools Policy manual <http://policy.cps.k12.il.us/download.aspx?ID=81>

Longley, Carol H. and Jeannie Sneed. "Effects of Federal Legislation on Wellness Policy Formation in School Districts in the United States." *Journal of American Dietetic Association* 109.1 (2009): 95-101. ScienceDirect Freedom Collection 2012. Print.

Manganello, Jennifer. "Health Literacy and adolescents: a framework and agenda for future research." *Health Education Research* 23.5 (2008): 840-847. Oxford Journals. Print.

New Chicago Public Schools Health Officer will Focus On Developing Comprehensive Healthy Schools Program Chicago Public School Office of Communications >http://www.cityofchicago.org/city/en/depts/cdph/provdrs/healthychicago/news/2012/jan/new_chicago_publicschoolshealthofficerwillfocusondevelopingcompr.html> 25 January 2012 Web. 2 February 2012.

Noddings, Nel. When School Reform Goes Wrong. New York, NY: Teachers College Press, 2007. Paperback.

Probart, Claudia, Elaine Donnell, Elaine Weirich, Lisa Schilling, and Vonda Fekete. "Statewide Assessment of Local Wellness Policies in Pennsylvania Public School Districts." *Journal of the American Dietetic Association*. 108.9 (2008): 1497-1502. ScienceDirect Freedom Collection 2012. Print.

Ratey, John J.. SPARK: The Revolutionary New Science of Exercise and the Brain. New York, NY: Little, Brown and Company. 2008. Hardcover.

Sanders, Lee M. and Judith Shaw, Ghislaine Guez, Cynthia Bauer and Rima Rudd. "Health Literacy and Child Health Promotion: Implications for Research, Clinical Care, and Public Policy" *Pediatrics* 124.3 (2009): S306-S314. American Academy of Pediatrics. Print.

Stride Institute: California Polytechnic State University. "Evaluation of School Wellness Policies in North San Luis Obispo County." (2009) 1-39. Digital Commons. Print.

Vevea, Rebecca. "Recess is Making a Comeback in Schools." New York Times, September 18, 2011. Lexis Nexis. February 15, 2012. <http://www.lexisnexis.com.ezproxy2.lib.depaul.edu/hottopics/lnacademic/?shr=t&csi=6742&sr=HLEAD(Recess+Is+Making+A+Comeback+In+Schools.)+and+date+is+September,%202011>.

Vevea, Rebecca. "Test Results Raise Questions About Extending Days." New York Times, July 1, 2011. Lexis Nexis. February 15, 2012. <http://www.lexisnexis.com.ezproxy2.lib.depaul.edu/hottopics/lnacademic/?shr=t&csi=6742&sr=HLEAD(Test+Results+Raise+Questions+About+Extending+Days.)+and+date+is+July,%202011>.

Young, Deborah R., Gwen M. Fenton, Mira Grieser, John P. Elder, Carolyn Johnson, Jung-Sun Lee and Martha Y. Kubik. "Policies and Opportunities for Physical Activity in Middle School Environments." *Journal of School Health* 77.1 (2007): 41-47. Academic Search Complete. Print.

##