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Parental Nutrition Health Literacy

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DNP Final Project

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Executive Summary
Parental Nutrition Health Literacy and Children's Health

Problem: The problem identified in the following study is that overweight and obesity is associated with comorbidities that contribute to chronic diseases such as depression, decreased academic performance, type 2 diabetes, cardiac disease and others (Allesio, 2018; Barlow & Expert Committee, 2007). Demographics reveal obesity prevalence among children and adolescents to be 18.9% in the lowest income group, 19.9% in the middle-income group, and 10.9% in the highest income group (CDC, 2018). School and home environments are especially influential in affecting school-age children's health behaviors (Luesse, Paul, Koch, Contendo, & Marsick, 2018). The PICO question is, "Will the nutrition literacy of parents of school age children in a low- and a high-income community be improved after a nutrition education intervention?".

Purpose: The purpose of this study is to identify trends in nutrition health literacy among parents of diverse backgrounds. The trends identified may assist in the direction of future studies in order to implement tools that will improve the nutrition knowledge of parents. This information will translate into practices that will benefit the nutritional health status of their children. If these healthy practices are implemented into the family routine, the children will reduce their basis for chronic diseases that are nutrition related and that begin early in development.

Goals: The goal is to improve the nutrition literacy of parents because health literacy of parents is directly related to their BMI's and this is predictive of their children's BMI's (Morrison, Power, Nicklas &Hughes, 2013).

Objectives: The objectives of the project include the use of a nutrition literacy survey (NLit), with known validity and reliability to assess if an education intervention improved nutrition literacy of parents. By implementing nutrition education to parents, they will have increased awareness of the health consequences of poor nutritional behaviors.

Plan: The plan is to provide and advocate for nutrition literacy programs for parents in all communities through public venues in cooperation with community partners, especially in at-risk areas.

Outcomes and Results: The pre-and post-nutrition education intervention surveys were analyzed using inferential and descriptive statistics that were run using IBM SPSS software. There was an aggregate sample of 30 obtained for the study. The outcome and results of this study are very positive based on the statistical analysis generated. The paired-sample t-test of the aggregate samples shows a pre-and post-intervention mean of correct answers of 30.12 and 34.27, respectively with a sig. (two-tailed) p value of .000. We reject the null hypothesis for the aggregate group. H_0: ($t=-2.752$, $p=.000$). This indicates that the means are statistically different and there was an improvement in overall nutrition-literacy scores after the nutrition education intervention. Individual results from each group show improvement in the post-education intervention surveys as well. The Cronbach's alpha statistic was .929 for the study which indicates excellent internal consistency.

Problem Statement of Purpose

Vulnerable populations have health consequences that are most vividly expressed in children. Social inequalities associated with the predominantly migrant population, present cultural barriers to acquiring positive health behaviors (Goldman, Pebley, Graciel, & Chung, 2014). Childhood obesity is a critical public health issue with a high prevalence among African American and Hispanic populations. This imbalanced physiological state is associated with comorbidities that contribute to chronic diseases such as depression, decreased academic performance, type 2 diabetes, cardiac disease and others (Allesio, 2018; Barlow & Expert Committee, 2007). The school and home environments are especially influential in affecting school-age children's health behaviors (Luesse, Paul, Koch, Contendo, & Marsick, 2018).

The purpose of the following project proposal was to implement a nursing quality improvement project. The goal was to assess the nutrition health literacy of parents of school-age children. This was assessed by pre- and post-nutrition education intervention surveys. Since parents are the providers of meals and health role modeling behaviors, we hope to improve their nutrition knowledge.

Problem Statement

Childhood obesity is a major health concern in the United States, and it has been identified as occurring in 16-33% of all children (Ogden, Carroll, & Flegal, 2014; Gibbs, Kennett, Kerling, Yu, Gajewski, Ptomey, & Sullivan, 2016). A direct association between parent's health literacy and family health status has been identified (Gibbs, et al., 2016). Health literacy of parents has been identified to be proficient in only 15% of the population (CDC, 2018). Health consequences are identified in vulnerable populations, particularly of children in underserved communities, as a result of poor access to healthy foods, health education, and healthcare access. Overweight and

obesity prevails in populations where children have low access to healthy foods and health care (Thomsen, Naya, Aviola, & Rouse, 2016). By identifying the nutrition health literacy of parents with a nutrition assessment tool, and then administering a nutrition education session, this investigator has assessed change in nutrition health literacy. If nutrition health literacy can be improved in this quality improvement study, we may be able to identify a strategy to deliver and improve nutrition health literacy in parents and families in all communities.

Problem, Intervention, Comparison, & Outcome

The project discussed was a nursing approach to evaluate whether providing health promotion education to parents will positively affect the health behaviors and outcomes of the children. Specific emphasis was on evaluating the nutrition literacy of parents, from two extremes of the socio-economic spectrum. These demographically distinct populations received the intervention of a nutrition education sessions. The Population-Intervention-Comparison-Outcome (PICO) is as follows:

P: Population: The population of interest were the parents of the underserved community of North Chicago, Illinois and the parents of the privileged community of Winnetka, Illinois.

I: Intervention: The intervention being tested was a health education session for the parents of school-age children.

C: Comparison: The intervention of the educational session and knowledge acquired was tested against the initial pre-education health knowledge as assessed through pre-and post-intervention surveys.

O: Outcome: The outcome of interest was how the parent's nutrition health education knowledge (nutrition literacy) or health literacy changed.

This project reflects the passion that this investigator attained through exposure to children in disadvantaged communities. Participation in community-based learning created a strong interest in the growing epidemic of unhealthy children who are overweight or obese. This problem exists not only in the socio-economically disadvantaged populations but is trending in all populations, regardless of demographics (CDC, 2018).

The DNP role is a leadership challenge to apply nursing knowledge for quality improvement opportunities in various clinical and population settings. Health promotion and disease prevention, beginning with the most vulnerable subset of children, is a passion based on educational and professional experience. Through evidence-based studies, educational programs and policy changes can be advocated for to improve the state of population health, especially children in the underserved population. This project was set within the context of the Healthy People 2020 goals of preventing and reducing childhood overweight and obesity (Centers for Disease Control and Prevention (CDC, 2018). Application of this DNP student's professional roles as a Registered Nurse and a Registered Dietitian, provided the basis for the client-sensitive quality improvement efforts through nutrition health education. The goal of the project was to provide culturally competent educational tools that will promote health, wellness and disease prevention in all populations, especially in the most vulnerable (The State of Obesity, 2018).

Problem Significance, Scope, & Rationale

The significance of the project is wide in scope. The World Health Organization has identified childhood overweight and obesity as a serious health problem throughout the world and one that leads to the development of chronic diseases (World Health Organization, [WHO], 2018). The Centers for Disease Control and Prevention has a stated goal for the reduction of childhood obesity by 2020 and beyond (CDC, 2018). The CDC defines health literacy as, "…the degree to

which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decision" (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, [USDHHS], 2016). Nutrition literacy is the "degree to which individuals have the capacity to obtain, process, and understand nutritional information and skills needed to make appropriate nutrition decisions" (Kuczmarski, Adams, Cotunga, Pohlig, Beydoun, Zonderman, & Evans, 2016). Health literacy is positively associated with access and utilization of medical care as well as health and wellness of the community and individual and it is linked to socioeconomic issues including health equities (Medicare Web, 2019). Several studies have reported a positive relationship between parental education level and parental nutrition literacy (Gibbs, Kennet, Kerling, Yew, Gajewski, Ptomey & Sullivan, 2016; Sanders, Perrin, Bronaugh & Rothman, 2014). Children are vulnerable to the parent's nutrition health literacy because they are dependent on them for food preparation and consumption (Sanders, et al., 2014).

Improving the health literacy of the population is a stated goal of Healthy People 2020 (Healthy People, 2020). In 2003, the National Assessment of Adult Literacy was conducted and of 19,000 adults, only 12% were proficient in health literacy (UDHHS, 2010). The disparities in health literacy are most prevalent and severe in the following groups:

- Adults over age 65
- Racial minorities
- Recent immigrants and refugees
- Persons with less than a high school education
- People at or below the poverty line in income
- Non-natives English speakers (USDHHS, 2010)

The health literacy of a person directly affects the person's ability to access and understand health information provided to them. It is estimated to cost the United States economy between $106 and $236 billion dollars annually in 2003 and in 2015, the cost was approximately $612 billion dollars (Vernon, Trujillo, Rosenbaum, & Du Buono, 2007; Leuck, 2017). In addition, limited health literacy is associate with low use of preventative services, medication use errors, lack of understanding of health consequences due to the complexity of concepts, and the psychological effects related to shame related to their low skill set (Vernon, et al, 2007).

National policy should address the costs of low health literacy in the U.S population because it is a major health issue in our society. Due to the adverse consequences of limited health literacy on health outcomes in the U.S., a public health initiative should be implemented to improve the general public's health knowledge. The human costs associated with limited health literacy outweigh the costs to improve the health literacies of society at large (USDHHS, 2010).

This project was intended to assess the nutrition health literacy of the parents of school-age children in different settings and to provide a representative sample of nutrition literacy within the identified populations. By incorporating nursing theories, the potential for positive change in health literacy, within the groups assessed, is the goal. Nurses are on the front line of educating their patients and individuals within the community. The nurse's responsibility to provide health education is inherent in the profession. This unique nursing perspective allows us to address social justice issues by identifying underlying barriers that contribute to health inequities.

Foundational Theory

The nursing theories that are applicable to this problem are Rosemarie Parse's *Theory of Human Becoming* (grand theory), Kurt Lewin's, *Change Theory*, Nola Pender's, *Health Promotion Model*, and Madeleine Leininger's, *Theory of Culture Care Diversity and Universality* (middle

range nursing theories). In Parse's model, the nurse is required to act in a dynamic interactive way, as a conduit in partnering and empowering the food desert communities. Lewin's model of change was based on group dynamics. He stated in his writings, that permanent change should be included in the objectives (Lewin, 1997). Leininger's model will be used to connect care and safe practices, incorporating folk beliefs with professional health tools, local language and local customs will be used to create a trusting communication (McFarland & Wehbe-Alamah, 2015). Pender's model of health promotion will be applied to reinforce positive role modeling and health behaviors in communities. Health delivery systems will be based on social action, delivered by health professionals, social activists and community groups.

Theories as Framework for Problem Statement

Theory Description: The Change Theory by Kurt Lewin

The central theories of the project within the context of this paper, would not be effective without the foundation of the concepts within Kurt Lewin's Change Theory (Lewin, 1997). The concepts that emanate from this study are based on driving, restraining and sustaining forces that are central in order for change, the improvement in the health of school-age children, to occur. The parents of the school-age children were assessed for their health literacy in order for positive change to occur as caregivers, and food providers, to the children, who may have health risks.

Lewin (1997) described this process as driving forces that cause change to occur. The study was meant to push the parents of the school-age children to reassess their knowledge of and actions that affect the health of their children. The behaviors that are unhealthy are then unfrozen. This is the second phase of the process and is described as the transition phase, also known as the most difficult part of the process because change is fearful and unknown (Connolly, 2016). The third phase is called, "refreezing" and is the new level of change. This stage requires reinforcement for

the change to remain permanent (Lewin, 1997). This was unable to be assessed however, take-home educational material was provided for the participant's reference to reinforce the education provided during the session.

Theory Description: Theory of Human Becoming by Rosemarie Parse

The central *purpose* of the Theory of Human Becoming is "humans in mutual process with the universe structure meaning multi-dimensionally, co-author health, freely choose ways of becoming, and move beyond each moment with hope and dreams", (Parse, 1998, p. 6). The major concepts are described within the nurse/client dynamic interaction. *Imaging* in a reflective-pre-reflective manner with the client and *valuing*, confirming-non-confirming, their perspective in a non-judgmental way. *Languaging* is speaking-being silent while listening. *Powering* is pushing-resisting while communicating with the client to explore their personal vulnerabilities and feelings. *Originating* is conforming-not conforming and *transforming* the familiar-not familiar in the client's worldview (Parse, 2001, p.113). Parse's theory of human becoming is the *unifying process* that guides my *problem statement*. It is the theory from which human understanding is derived. This philosophical approach has been applied in effecting community health (Parse, 2012), education (Ursel, 2015), and in diverse populations (Parse, 1999). The *paradigms* are applicable to underserved populations, with potential or actual health problems that develop at a young age, due to poor access to healthy foods and health care education. The metaparadigm, as described, is fresh and unique, rich with possibilities for development and new perspectives and it will guide the working, middle theories.

Middle Nursing Theory Leininger's Culture Care and Diversity and Universality Theory Description

The *purpose* of Madeleine Leininger's theory is to be culturally relevant in the delivery of patient care. While addressing wellness, recovery from disease and compliance with prevention recommendations, culturally sensitive approaches will result in positive outcomes. This is known as *transcultural nursing* and the focus is on the person or community's cultural beliefs and practices using the principles of anthropological research. The *purpose* of the theory is to explain and predict effective behaviors for positive health outcomes in diverse populations. The *scope* of the theory is middle range nursing. The origins of the theory are derived from the author's background as a field anthropologist and nurse, who focused on the link between culture and care. She realized that, "care was embedded in the worldview, social structure and cultural values of a particular culture" (Wehbe-Alamah & McFarland, 2015, p. 35). The theory has four major *tenets/concepts*. They are *culture care, ethno-health beliefs, generic folk practices, and application of cultural practices within nurse-patient context.* The *theoretical propositions* are that cultural care practices are unique to populations and yet share universal commonalities. The goal of this model is to preserve the integrity of culture in creating a dynamic relationship between the professional and the population studied. The *major assumptions* are the application of care, and the incorporation of cultural beliefs systems and worldviews to promote health, wellness, and to treat acute and chronic diseases. The *context for use* of this model is the nurse and community (individuals), dynamically identifying holistic and safe modes of culture care. The theory will support the problem statement, of health care consequences in underserved communities, often newly immigrated Mexican immigrants, and economically disadvantaged. Transcultural care is important to establish trust and utilize the resources with the family/community context.

Nursing Middle Range Theory: *Health Promotion Model*, Nola J. Pender

Theory Description

The *Health Promotion Model* (HPM) is part of a global movement endorsed and developed by the World Health Organization to improve the health of people on all levels of society (WHO, 2008). The policy goal is to ensure social justice, implement universal coverage, and provide leadership that is inclusive of all of its' constituents. The Healthy People 2020 goal states that health promotion is the essential factor for eliminating preventable diseases (Healthy People, 2020). The *purpose* of the HPM is to describe and predict healthy behaviors that can prevent disease. The *scope* of this theory is a middle range nursing and provides tools to follow the model. The *origins of the theory* were based on Pender's' observation that health professionals were only used to treating illnesses and not preventing them. The *purpose* of the HPM is to help nurses uncover the basic elements of health behaviors to lay a foundation for behavior counseling and health promotion (Pender, Murdaugh & Parsons, 2015). The *theoretical assumptions* of the HPM is that people are unique, live according to their individual beliefs, are self-aware and able to assess their own abilities. They require dynamic stability to regulate self-behaviors. Individuals are bio psychosocial beings who have an interactive, fluid relationship with their environment and with health professionals. They must initiate personal change within their environment and be committed. The *context for use* of this theory is to contribute to the nurse's comprehension of the major causes of health behaviors to impart and implement behavioral educational health promotion (Pender, et al., 2015). The *stated problem*, worldview and philosophy are *directly applicable* to the HPM. The link between the middle range practice theory presented within and the DNP clinical problem is the presence of the nurse interacting dynamically with community members (the bio-

psychosocial organism), to promote healthy lifestyle modeling, disease prevention and improved access to healthy foods.

Review of Evidence

Discussion of Literature Review

Weight status is defined by body mass index (BMI). Overweight children are in the 85th-95th percentile for weight. Obese children are defined as 95th percentile and above for weight (CDC, 2018). Over the last decade, children have increasingly become overweight and obese. Families of children play a key role in the state of their health. In the United States, obesity was prevalent in 18.5 % of the 2-19 years old group, affecting 13.7 million children and adolescents (CDC, 2018). The 2-5 years old group had an obesity prevalence of 13.9%, while the 6-11year old group had an 18.4 % prevalence rate and the 12-19 group had a rate of 20.6%. Childhood obesity is higher in Hispanics (25.8%), than non-Hispanic blacks (22%) and higher than in non-Hispanic whites (14.1%). Non-Hispanic Asians had lower prevalence than among the other groups measured at 11% (CDC, 2018).

Many factors contribute to the epidemic of obesity in our youth. Behaviors that include consumption of high-Calorie and low-nutrient dense foods and beverages are most apparent. These foods are inexpensive and convenient meal options for families of working parents. Inactivity due to reduction of physical education programs, decreased spontaneous play due to safety concerns, increased screen time, and disturbed sleep patterns also contribute to a positive energy balance in the form of excess Calories, deposited as lipids in the body (The State of Obesity, 2018).

Children in the United States who were born in 2000, are projected to have Type 2 diabetes at some point in their lives (Lee & Lee, 2011). This risk is higher among ethnic minorities. In new cases of pediatric diabetes, 8-45% are Type 2 diabetic cases (Allesio, 2018). The disease

consequences from early age overweight and obesity are early onset of hypertension elevated cholesterol levels, insulin resistance and type 2 diabetes, asthma, sleep apnea, fatty liver disease, gallstones, gastroesophageal reflux, and joint and musculoskeletal discomfort. Psychological issues arise such as anxiety, depression, poor self-esteem, children subject to bullying, and poor academic performance (Allesio, 2018). Their quality of life is decreased as they are more likely to become obese adults with increased disease risks (CDC, 2018).

We have become an obesogenic society with inexpensive fast food with poor nutrient density and high Caloric content, served in large portions. Healthy food choices for disadvantaged populations are difficult to obtain especially since this population tends to live in food deserts (Hu & Bhupathirtaju, 2016). Food deserts in the United States are broadly described as geographic areas where resident's access to healthy food options is limited. They are low-income census tracts, where at least 20% of the population are at or below the federal poverty income census tracts, where at least 20% of the population are at, or below the federal poverty levels for family size, and one-third of the population lives one mile or more from a supermarket (ten miles or more in non-metropolitan areas) (United States Department of Agriculture, [USDA], 2013).

Studies have shown that public health initiatives providing nutrition education to parents do not produce adequate improvements in outcome (Gibbs, Kennet, Kerling, Yu, Gajewski, Ptomey & Sullivan, 2016). These authors found significant positive association between parental nutrition literacy and child diet quality. Level of education of the parents was inversely associated with parental obesity. However, there was no relationship between parental nutrition literacy and their children's BMI percentiles (Gibbs, et al., 2016).

The two sample populations in which this study took place were chosen because the problem of childhood obesity and parental health literacy is pervasive across all socio-economic barriers (CDC, 2018). The demographic information does highlight the differences in education levels and amount of correct answers but otherwise, all other comparisons are neutral and are addressed as an aggregate group.

Studies have been conducted demonstrating that school and family settings are key to constructing positive health outcomes in childhood health. Community programs are being launched to measure the effects of neighborhood interventions on child health. LA Sprouts, a community organization serving minority children in Los Angeles, conducted a 12-week gardening, cooking and nutrition program with numerous school-age children using a control group (Gatto, Spruijt-Metz, & Davis, 2017). The results revealed reductions in BMI, in the intervention group compared to the control group. This reduction in obesity and metabolic risk is a positive indication that community programs do contribute to positive health outcomes in children and further studies in this area should be conducted (Gatto, et al., 2017).

Jarpe-Ratner and her colleagues designed an experimental cooking program for children of underserved elementary and middle schools in Chicago (Jarpe-Ratner, Folkens, Sharma, Daro & Edens, 2016). This was conducted over one year, but the program continues to be offered annually since its' conception in 2003. A chef conducted the program and the results were positive for increased fruit and vegetable consumption, nutrition knowledge and nutrition self-efficacy. Children participated in home food preparation and there was increased importance placed on family meals. Results continued to be positive, as reported by the parents, after six months (Jarpe-Ratner, et al., 2016).

Health inequities play a major role in childhood obesity. Children ages 2-19 were sampled from the National Health and Nutrition Examination Survey (NHANES) from 2003-2010 (Iriat, Boursaw, Rodriques, & Handal, 2013). Children were assessed for stunting and micronutrient deficiencies. Hispanic children have stunting rates of 6.1% vs. 2.6% for other ethnic groups. The authors concluded that Hispanic girls who were foreign born and not US citizens had higher prevalence of stunting. Stunting occurred in healthy weight individuals below the poverty line and older children were more likely to be stunted. The authors draw attention to the need to examine immigrant children not only for obesity rates but micronutrient deficits, especially in girls, because the deficits could be genetically programmed through generations (Iriat, et al., 2013).

Literature Review

A systematic review of literature was conducted using CINAHL, PubMed, Search Complete and Ancestry as the databases. The search terms were initially, "childhood obesity, food deserts, and chronic diseases", which yielded over 200 articles. The search was narrowed down through several attempts using the terms, "health literacies, parents, school-age children, food insecurity, children's health status, and health disparities". There are approximately 18-25 very relevant articles that are Level 1 evidence studies. The terms included, "peer-reviewed, English, between the years 2010-2019". The emergent themes were that food deserts result in population with poor nutritional status; food insecurity relates to low socio-economic status; low level of education results in poor health and chronic disease prevalence; childhood obesity leads to earlier and younger onset of chronic diseases, and poor self-esteem and school performance; parental health literacy is proportional to the health status of children of certain ages; parental involvement with school support aids in health promotion; and recent immigrant status results in pooper health

status than earlier immigrants. The Systematic Review of Literature tables can be found in the Appendix.

Market Risk Analysis

SWOT Analysis

The SWOT analysis is the assessment of the strengths and weaknesses of the study (Terry, 2019). The analysis is described below;

- **Strengths:** The strengths of the study were the community organizations, and the parents and the children/students. The Forrestal School was the community group through which the project will be executed. In addition to this community group, the Winnetka Community House was the other study site. The parents of the school-age children at these sites provided the most strength of the study.
- **Weakness:** The weakness of the study was the attendance of the parents as the subjects of the study. There were work, church, weather, and activity conflicts and barriers that arose in the study nights.
- **Opportunities:** The study assessed the nutrition literacy of the groups and provided the opportunity to provide and improve health and nutrition education to improve health equities across socio-economic barriers (Terry, 2018).
- **Threats:** The threats that might have interfered with the validity of the data due to small sample sizes and/or pre-testing sensitivity. Through marketing and coordination of community partners and the parents, these issues were minimalized (Zaccagnini & White, 2017).

Lewin describes the Force Field Model (1997) in his theory of change management. This can be applied to the proposed project using the concepts of driving, restraining, and sustaining

the need for change. The driving, restraining and sustaining forces within this study can be projected to be identified within the following contexts:

- **Driving (forces**): Defined: The result of a need for change and dissatisfaction with the present state. Example: The parents can recognize this by presenting an improved way of choosing and preparing foods.
- **Restraining (forces):** Defined: The resistance to change. Example: The parents may feel that changing their family's dietary habits may be disruptive, stressful, and they may not want to put the effort into it.
- **Sustaining: (forces):** Defined: The needed change has occurred and is sustainable and not temporary. This requires reinforcement from internal and external sources. Example: The parents are implementing changes in the family's meals to include lower fat, high quality proteins and fruits and vegetables in the meal preparation.

The provision of nutrition health materials during and after the presentation and surveys, may have reinforcement qualities that could be assessed during a subsequent study.

The forces for changes include internal and external sources. The internal forces are the following:

- Parent's desire for healthy a family
- Concerns about the future health and well-being of their children
- Recognizing the need for changing their food preparation routines
- Awareness of adverse health changes including the weight status of family members

The external forces are that will drive change are the following:

- Need for more doctor's visits due to decreasing health status of family members, especially the children.

- High costs of medical visits
- Increased demands from children for healthy foods
- Social media and government sources advertising need for healthy eating and maintaining a healthy weight for children.

Resources, Risks, Unintended Consequences

Timeframe

The timeframe for the study execution in September of 2019 at both sites. Data analysis occurred during the NR702 statistics class and results are reported within this report. A publication copy of the study will be designed and submitted to the Regis library upon submission of the results in the Spring of 2020.

Budget and Resources

The budget for this project was $1660.00 dollars. This included the following:

- Interpreter, Spanish: $250.00
- Materials including binders and copies to be handed out to participants; $900.00.
- Survey cost: $100.00.
- Cost to rent Library room: $60.00
- Food costs and miscellaneous; $350.00.

A Spanish interpreter was utilized in the same capacity at both sites. There was educational material that was be included in the session and a binder with copies of this material was distributed. The survey was obtained through permission of the University of Kansas and was paid for. The library room was rented, and food was made and available to the participants. There were miscellaneous expenses and those were included in the budget. All funds were obtained from this investigator.

Stakeholders

The stakeholders can be categorized into internal and external sources. The internal stakeholders are the following:

- The parents of the children in Forrestal School and the Winnetka Community House.
- The children of the parents being assessed for their health/nutrition literacy.
- The Forrestal School community and the Winnetka Community House organization and educators.

The external stakeholders are those who are affected by the outcomes of the internal organization (Surbhi, 2017). They are as follows:

- County Health Departments
- Pediatricians
- Centers for Medicare and Medicaid and private insurance providers.

Identification of Project Team

The project team is identified below:

- Sheila Flynn Towson, MSN, RN, MS, RD DNP_c
- Lora Claywell, PhD, RN, CNE; DNP advisor, Regis University
- Elizabeth Hartman, PhD, RN local mentor
- Inez Mitchell, Principal Forrestal School
- Mike Buscher, Winnetka Community House contact

Cost-Benefit Analysis

The cost-benefit analysis of this project has the potential to be effective on the family level up to the global level. These include the improved or sustained health status of the family. By incorporating positive nutritional changes in the diets of families, better health status' can be

achieved. Studies have identified poor health status in the young with increased risk for chronic diseases later in the lifecycle (Thomsen, et al., 2016). By improving the nutrition health literacy of parents, healthier food intake that include fresh fruits and vegetables in the diets of the family can offset negative health consequences.

The Healthy People 2020 Goals of decreasing childhood obesity and overweight will be more achievable. Through the obvious association of high fat, low nutrient dense food intake and overweight and obesity being reduced, the overall goals of reducing childhood and population obesity will be more reachable (CDC, 2018).

The World Health Organization's goal of improving global health and reducing obesity in childhood and beyond will be affected by a positive change in nutritional health behavior (WHO, 2018). From a local to global perspective, the overall health and wellness of families, the U.S. population, and global society has the potential to improve due positive changes in health behaviors of the parents of school-age children, one educational session at a time.

The costs to not attempting to find solutions are numerous. Health issues will continue to burden the family unit, the children themselves, and both the U.S and global societies, at large, if positive health changes do not occur. The cost of this project was approximately $1660.00 dollars. The cost of poor health for a child has been calculated at $19,000 dollars per child (Global Health Institute, 2014). Chronic disease related to obesity costs $147 billion dollars per year. Tooth decay costs $45 billion dollars per year and disease and stroke costs $199 billion dollars per year, including $131 billion dollars in lost productivity on the job (National Center for Chronic Disease Prevention and Health Promotion, 2019). Poor performance in school as related to poor health and concentration, is a precursor to low income jobs, possible participation in government assistance programs, and an at-risk candidate for the cycle of poverty (Pac, Nam, Waldfogel, & Wimer,2017).

The cost of not attempting an intervention to improve or maintain positive health behaviors, including healthy food intake, is too high to ignore. The role of the doctoral prepared nurse is to be involved in public policy to positively affect health disparities and to improve the population health of communities in which we can make a difference (Zaccagnini & White, 2017).

Project Objectives

Mission and Vision Statement

The mission statement of this study is to provide a quality improvement assessment to evaluate the efficacy of a nutritional education intervention to parents of school-age children. This mission is embedded in the Jesuit philosophy of contemplatives in action, addressing and taking action on social issues.

The vision statement of the study is to impart positive nutrition health literacy to parents with school-age children and embed permanent positive modeling behaviors. The vision is to have a society free from obesity and chronic diseases related to poor nutritional intake.

Vulnerable populations face socio-economic and health challenges that can adversely affect their life cycles, if change is not implemented early. By applying the knowledge and experience obtained as a nurse and a dietitian, the goal of this clinician is to improve the health, and wellness, and to prevent disease onset in childhood. Parental involvement is key to disseminating behavior changes within the family structure. By assessing and providing education to parents of the school-age children at the two sites described, the mission statement of the Jesuit value system is being actualized by this student doctoral nurse.

Goals of Project

The overarching goal of this proposed project was to assist in finding a solution to achieve the Healthy People 2020 objective of reducing childhood obesity (National Centers for Chronic

Diseases Prevention and Health Promotion, 2019). By determining the health/nutrition knowledge of the parents of school age children, we then educated them on nutrition facts. The education of the parents on the healthy food choices and quantities may translate into improved nutritional choices and preparation at home. The education material given to the parents was meant to encourage and assist in healthy food behaviors at home and in other social and educational settings.

The overall goal was to maintain and/or achieve healthy, and active school-age children with an interest and working knowledge of healthy food behaviors. The families and children should work together to stay active and execute positive meal and food behaviors.

The use of a nutrition-specific literacy measurement tool was used because the outcomes from health literacy tools drew mixed results in drawing relationships between parental health literacy and childhood obesity (Yin, Johnson, Mendelsohn, Abrahms, & Dreyer, 2009; Ciampa, White, & Perin, 2013); Chari, Warsh, Ketterer, Hossain, & Sharif, 2014).

Project Processes and Identified Outcomes

The project processes included a pre- and post-nutrition education intervention health literacy survey with a nutrition specific health literacy measurement tool. The surveys and education were given to the parents of school-age children at Forrestal School in North Chicago, Illinois and the Winnetka Community House in Winnetka, Illinois. Both sites had the same treatment. The date that the sessions tool place was in September of 2019 at the North Chicago Public Library and one week later at the Winnetka Community House.

This was a one-time pre-and post-education intervention survey administered at each site. The entire session took approximately one and a half hours. The survey used was the Nutrition Literacy Assessment Instrument from the University of Kansas. It has strong validation data

interpretability based on diet quality (H. Gibbs, personal communication, July 5, 2019). The survey can be found in the addendum of this proposal.

The education tools were designed from government sources including the United States Department of Agriculture, Eat Right.org site and the National Institute of Health, Let's Go! sites (USDA, 2018; EatRight.org, 2018; Let's Go!, 2017).

Appropriate Study

The study that this researcher conducted was a quantitative quality improvement study. There were no human rights to protect as the parents who participated were adults who voluntarily participated in the study and thus gave their implicit consent.

Data Collection and Procedure

The data collection involved the voluntary participation by the subjects who were recruited with marketing material provided by the community partners. This included social media, e-mail blasts, fliers provided by this researcher at the school, community house and the library. All marketing materials, surveys, demographic materials, educational intervention, and take-home educational materials were bilingual in Spanish and English. Food was provided and participants chose the language that they required for the demographic survey first and when they were completed, the first NLit survey was given to them. When completed, they were collected and put in a banker's box and the nutrition education survey was given, and questions were answered. The second identical survey was administered, and they were secured when completed. Participants were given the take-home nutrition education material at the exit door.

Methodology & Evaluation Plan

Research Design and Project Objective

Childhood obesity and overweight has been identified as a critical issue by the Centers for Disease Control and Prevention (CDC, 2018). The DNP project that was launched was a quality improvement model in which the primary outcomes are before and after surveys of health literacies of the parents of school-age children in two different demographic populations. This study model was based on the phases described by Terry (2018), plan, do, study, act (PDSA). The first stage (plan), was the development of a survey and education session(s) on health literacy for the parents of school-age children. The second phase (do), was the implementation of the survey and education session given to the parents in two different socio-economic communities in the state of Illinois. The third phase (study) was the evaluation of the results and the identification of health promotion needs of the parents of the children in the different communities. The fourth phase (act) was implementing health behaviors within the families in order to produce healthy individuals, as they reach different stages of development. The goal was to produce health and wellness quality improvement recommendations for healthy children (Institute for Healthcare Improvement [IHI], 2010).

The study variables included within this DNP project are described below. The independent variable was the education session that was given to the participants. The knowledge acquired by the session, as measured by the number of correct answers after the session compared to before the session was the dependent variable. Any extraneous variable due to language barriers were removed due to all information being presented in both English and Spanish. There was an interpreter present to explain the study in order to negate that extraneous variable. The education level of the participants varied and was identified in the self-reported

demographic information. The effects of the education intervention were measured by the second identical survey given at the session. Although the initial idea was to have a three-month follow-up with the same survey, there were not many e-mails addresses left and the technological challenges of attaching and resending the survey results was too complicated (Zaccagnini & White, 2019).

The study was a quantitative study, quality improvement study and the participants represented a convenience sampling of the parents of school-age children, within each community (Terry, 2018). Descriptive and inferential statistics were applied. The size of the samples was less than 100, due to convenience sampling and limited attendance. The samples were homogenous, with each community site representing the demographics of the parents of the school age children within the respective communities (Terry, 2018). This homogeneity allowed the samples to be less than 100 and still be considered representative of the community. The samples (parents) in North Chicago had similar demographic data points, and the community of parents in Winnetka had similar data points. The comparison of the communities differed in the categories of ethnicity and education levels as identified in the demographic data.

Plan for Data Analysis

The study conducted was a quantitative research study, in a quality improvement format. A convenience sample of parents of school-age children was given a pre-and post-health knowledge survey with the comparison being the pre-survey results. The intervention (independent variable) was the health education session. Two demographically distinct populations composed the subjects of the study. The subjects were the parents of school-age children in North Chicago, Lake County, Illinois and in Winnetka, Cook County, Illinois. The dependent (outcome) was the post-intervention knowledge demonstrated by the parent groups.

The analysis conducted in this study, was both descriptive and inferential (Taylor, 2018). The descriptive analysis was from data received based on survey responses, before and after education interventions. The frequency distribution will be analyzed using central tendency data, the mean, median and the mode of the responses. The dispersion around the central tendency will be examined and standard deviations will be determined.

Inferential statistics were also applied to the proposed study. T-tests were applied to each group in order to determine if a difference exists in the data. The Pearson correlation coefficient measured the relationship that exists between two or more variables (Terry, 2018).

The power calculations were based on an alpha of 0.05. The convenience sampling of parents who attended the sessions were the parents of school-age children population from both communities. This presents a bias because these parents might be more motivated than others who did not attend and may not be representative of the larger population. The groups will be homogenous from the perspective of demographics and representative of school age children in the communities. Therefore, a small same size of less than 100 is acceptable (Terry, 2018). This should provide an acceptable confidence interval.

Reliability of a study asks certain questions. Did the test measure what they were intended to measure and was this done consistently? Were the measured items, characteristically consistent and were the ratings of the items consistent? (Tymkow, 2017). The reliability coefficient ranged from 0.00 to 1.00. A reliability coefficient of 0.70 is acceptable if the testing instrument is new but 0.80 is traditionally acceptable (Tymkow, 2017). The potential threats to reliability and validity in this study was the possibility that the population being tested were sensitive to the effects of the intervention which was, nutrition education and the experience gained through pre-survey testing (Terry, 2018). This can occur

when the pre-testing sensitizes participants and makes them react to the questions differently than the general population. If this occurred, the results could not be generalized to the population of interest, in this case, parents of school age children in the communities being studied (Insight, 2019). There could also have been a bias in the selection process but in this study, a convenience sample of parents of school age children was measured, and there was only one treatment, which was the educational session.

A potential threat to internal validity was the possible small sample size of this group but if the impact of the intervention was strong, a small sample size would be effective (Cullen, 2019). The intervention would be the reason that there were changes in the results of the "after-intervention" survey (Terry, 2018). Surveys were checked while the sample (parents) were in the room, to prevent incomplete responses. Sampling errors or incomplete data of retrospective data biases did not apply to this study as all data was gathered from original survey studies (Lange & Jacox, 1993). Type II error was prevented with adequate sample sizes. Type I error was prevented by controlling extraneous variables (Terry, 2018). Raw data was summarized, organized and analyzed to derive useful information from the study (In & Lee, 2017). Tables and tabular data will facilitate comparisons, relationships and trends. Each set of data, from the two populations, were both individually presented and superimposed in charts for comparison. These visual analyses assisted in identifying similarities and differences in the data.

Content-based databases and data dictionaries was referenced in the study. The study was not acquired through big data from retrospective studies, but data was raw and original. However, big data from the Centers for Disease Control and Prevention, on childhood obesity, demographic data from the communities studied, historical data from the National Health and

Examination Survey (NHANES), the National Health Interview Survey (NHIS), and the National Survey of Children's Health (NSCH) were referred to in the literature. Local content-based on information derived from the city-data bases and from previous research was utilized in the analysis.

Logic Model

The logic model depicted below describes the project, population, activities, and outcomes that this author has structured in order to achieve a meaningful DNP project. The parents of school-age children from two distinct Illinois communities were the subjects. One population was from Cook County, Illinois in the city of Winnetka and one is from Lake County, Illinois in the city of North Chicago. The former is a wealthy community with a per capita income in 2017 of $110,560 and a median household income in 2017 of $216,875. The latter is below the poverty line with a per capita income in 2017 of $20,378 and a median household income in 2017 of $41,679 (US Census Bureau, 2018). Pre-and post-health education surveys were given to a convenience sample of parents. The objective was to determine if a health education session improved the subject's knowledge of healthy behaviors that have the potential to positively impact the short- and long-term health of their school age children. Inputs included working cooperatively with community partners to schedule events at their locations, marketing the event, and obtaining available demographic data on the population. Observations were made during volunteer efforts at the identified community sites.

Constraints included low attendance rates by parents at both sites. The North Chicago population was skeptical due to recent immigration issues in the area. Many parents work outside the home and had conflicts. There was a school event which was not disclosed, it was a night

where many of the community went to church and the weather produced a tornado during the session at the North Chicago site. There was a total of 30 participants at both sites.

The activities associated with this project will included pre-and post-health education surveys that were administered to the participants who were all parents with children. The education was designed, based on previous successful models and surveys, with customized adjustments agreed upon by the author and committee chairperson. Data analysis determined outputs from the results of the study. The quality improvement outcome was based on the determination of whether parents benefited from the nutrition health education to improve their nutrition literacy scores. This is a potentially successful tool for the DNP educated nurse, to achieve the goal of health promotion and disease prevention.

The short-term outcomes are the improved health literacy knowledge of the parents in the communities assessed. The goal is for the newly acquired knowledge new information to be translatable to the family unit so that children will be involved in the planning and preparation of meals, and witness health and wellness modeling.

Long-term outcomes could result in sustained maintenance of recommended health guidelines by the children. Their BMI's and other health status indicators should be within clinically acceptable ranges throughout their life cycles. The goal is to also continue to demonstrate positive health behaviors in the form of active and healthy lifestyles, balanced food preparations, and involvement in sports activities, either formal or informal.

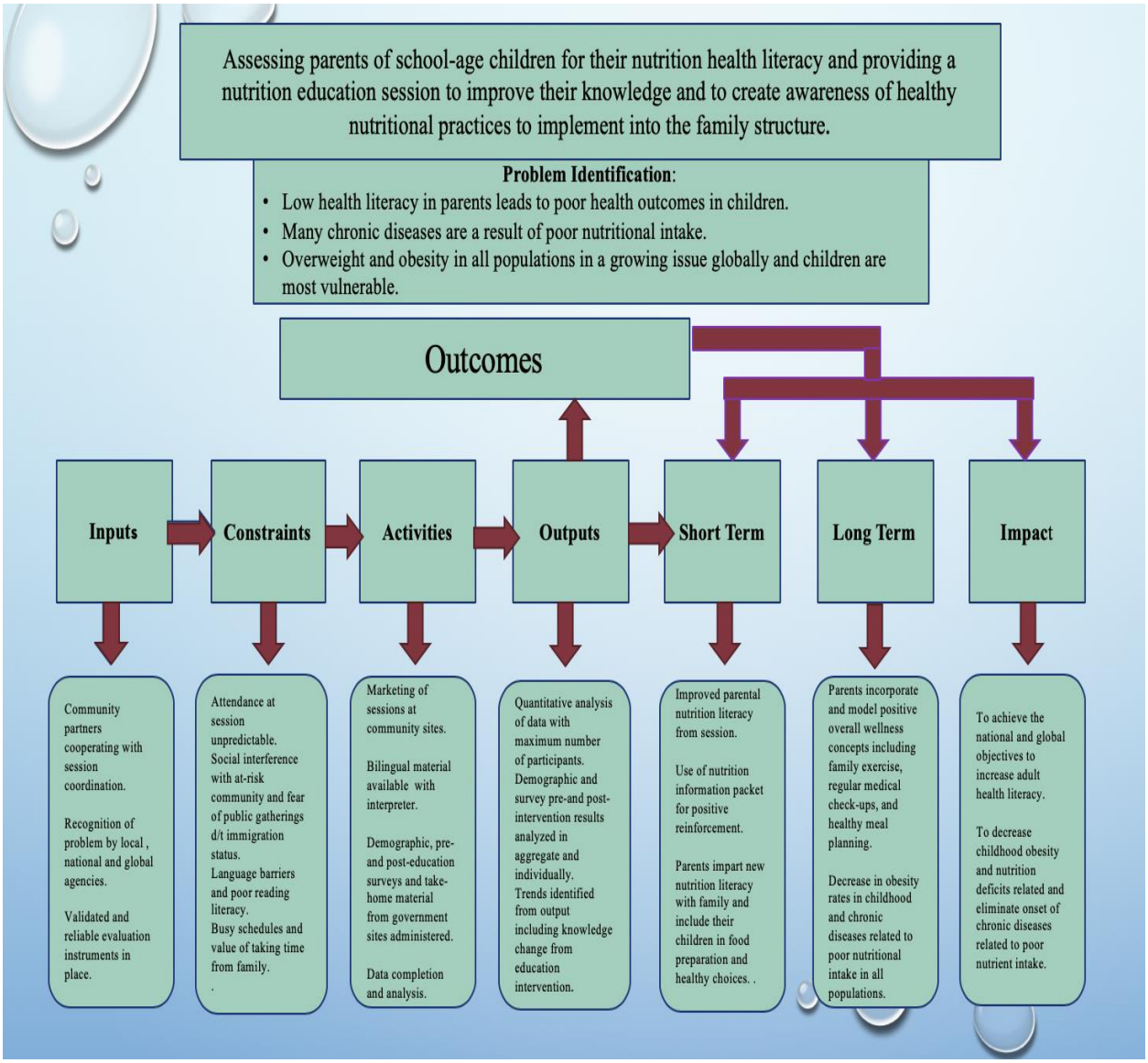
The impact would be a decrease in childhood obesity in these communities, and an overall improvement in health status, as evidenced by physically active lifestyles into their young adulthood. High nutrition health literacies will be reflected in healthy food choices and portion sizes, fresh produce and low-fat protein sources, adequate hydration, and positive parental

modeling of healthy lifestyles and moderate alcohol intake. Parents should be able to identify and navigate ways to obtain healthy foods, although residing food desert environments.

There are many resources available to communities that lack adequate access to healthy foods and transportation to nearby community stores and clinics. Issues identifying obstacles to obtaining positive healthy options for the family, through self-efficacy questions from the surveys, will be obtained. That information will be analyzed, and community policy planning will be explored.

The Logic Model is presented as follows:

Logic Model: Designed for Proposed DNP Project: Health Literacy Assessments



Health Literacy Assessment of Parents of School-Age Children in Two Illinois Communities

Adapted from: Evaluation Logic Model Guide, W.K. Kellogg Foundation (2006).

The Institutional Review Board

The Institutional Review Board (IRB) of Regis University had jurisdiction over the content of the study. This project studied the parents of school-age children who were all adults and

not a vulnerable population. The study was designed as a quality improvement project and received IRB approval.

Project Findings and Results

Methodology

The research problem identified in this study was the need for nutrition knowledge in the parental population of school-age children in order to improve nutrition health literacy. The underlying assumptions were that nutritional knowledge was required in order for parents to model healthy eating patterns. By doing so, children would make healthy food choices and improve their health outcomes throughout their lifecycles. However, this is conjecture and could not be measured within the confines of this study. Because most chronic diseases are caused by poor nutritional intake in the United States, improving approaches to disseminate and reinforce good nutritional health behaviors in children is the goal. By doing so, we attempt to contribute to the decline of overweight and obesity rates, type 2 diabetes, kidney disease and heart disease in populations (Healthy People, 2020).

The methodology used by this DNP student was a nutritional health literacy survey given to two sample populations in a pre-and post-educational intervention survey method. It was a quantitative quality improvement study. A verified and reliable survey was utilized to assess the nutrition health literacy of parents of school age children. There were two settings in which the survey and educational setting was conducted. One was at the North Chicago Public Library (N.C.) where fifteen participants completed the entire session. This site was the setting for an underserved population with health inequities. This site was chosen because it was centrally located in the community. The other setting was the Winnetka Community House (Winn.) in Winnetka, Illinois where fifteen participants also, completed the entire session. This is an

affluent community in the Chicago suburbs and the community house is the setting where the residents go for educational events, it is connected with the schools for children's activities, and is the heart of the town activities.

The sessions were preceded by advertising through the North Chicago school, in which this DNP student volunteers weekly, with fliers provided by this investigator and website alerts. The North Chicago Public Library also distributed fliers on the educational session and presentation. The Winnetka Community site also was given fliers and they were available at the check-in desk and throughout the classrooms and the information was put on their website. Food was served at each site to attract participants.

The 42-question survey known as NLit, was available in both Spanish and English. After the initial survey, a power point information session designed by this investigator, was presented with bi-lingual slides. The second survey, which was given to assess improvement in knowledge as gained from the educational portion, was then given to the participants. Each participant completed both surveys during the sessions. An information packet containing nutrition education material was given to each participant when they completed the session. This information was obtained from the USDA, Eatright.org and Let's Go! public websites (USDA, 2018; Eatright.org, 2018; Let's Go!, 2017). A total of thirty completed surveys were collected for both sites.

Type of Study

The study that was conducted at the two sites was a quantitative study designed in a quality improvement format. Informed consent was implicit in the individual's voluntary participation in the study. The information obtained was coded into numerical form and analyzed with descriptive and inferential statistics. Descriptive and inferential statistics were used to

obtain the results of the pre-and post-intervention test. The measure of internal consistency was obtained to measure reliability of the results. Descriptive statistics alone were applied to the demographic data.

Tools for Data Collection

The N-Lit Nutrition Health Literacy Survey developed by the University of Kansas was used as the assessment tool. The university nutrition department was contacted, and permission was granted for a fee to use the survey. The researcher who refined the survey was contacted and recommended that this investigator use her 42-question survey vs. the 64-question original survey because the validity and reliability was higher. The validity was 0.97 and the lower and upper limits of the Confidence Interval, (CI) was 0.96-0.98 (Gibbs, Ellerbeck, Gajewski, Zhang & Sullivan, 2018). A basic demographic survey was also given.

Level of Data

The level of data collected and analyzed was different for the survey and the demographic information. The demographic survey questions were a mixture of nominal, ordinal and interval data. The survey questions were multiple choice survey questions. The demographic data included age (interval), sex (nominal), children (yes/no-nominal), married (yes/no/nominal), level of education (interval), ethnicity (nominal), and employment (yes/no-nominal).

The survey questions had answers that required the correct response choice. The SPSS analysis for the survey results was paired t-test for the pre- and post-intervention survey results and measures of central tendency. The number correct was calculated for the pre-and post-educational interventions surveys. These results generated the quantitative data described in the content within this discussion.

Tests on IBM SPSS Version 26

Descriptive analysis was used for demographic data for the two sites individually and as an aggregate. There appeared to be no higher-level data or trend that were apparent form the survey results. Percent's, means and modes were measures of central tendency that was extracted from the data. The demographic data was most useful from the results of the measures of central tendency for example, "What percent of the population was a certain ethnicity" and "What was the average level of education?". The Chi square test was applied of the demographic data and did not make statistical sense within the context of this study and was not used.

Validity and Reliability

Validity is a measure of the accuracy of the instrument used and what it is meant to measure. In the case of this study, criterion-related validity was measured. This is the impact of scores received as a result of the external criterion, as in this instance, the change in scores because of the education intervention. The Pearson correlation coefficient was the measurement used in this study. The results for the data are discussed in subsequent sections.

The test reliability is the result received after testing and it measures the consistency of the results received by the use of the instrument. The internal consistency was measured for the pre-and post-test study design. The internal consistency reliability of this study looked at the consistency of the scores received in the pre- and post-test answers. The Cronbach's alpha value was measured to assess internal validity.

The null hypothesis and the alternative hypothesis were applied to the results of the survey questions. This is a statistical procedure to determine if the mean difference between the two sets of data, the pre-and post-intervention is zero. The alternative hypothesis assumes that

the mean difference between the two sets of data is different, not equal to zero. The upper and lower tailed hypothesis was used to increase the power of the results.

Definition of Variables

The independent variable in the study was the education intervention after the first survey of nutrition health literacy was given. The independent variable is defined as the variable that was changed or manipulated in a study to test the effect on the dependent variable. The dependent variable in the study was the knowledge gained as a result of the nutrition education session as measured by the correct answers in the second survey. The dependent variable is dependent on the independent variable and as this variable is changed, the effect on the dependent variable is observed (Helmenstine, 2018). In this study, the independent variable, the education session had a positive effect on the number of questions answered correctly in both sample groups tested (the dependent variable).

Effect Size

The effect size was small for both the aggregate and the individual samples. If one estimates that the total population of parents of the school age children in each focused sample was 150 and half of them had parents that could have been subjects, the effect size would have been 75 x 0.8=60. The sample size ideally should have been 60 for each sample group which would have been an accurate sample to estimate the results of the population (Field, 2018).

However, the Pearson correlation was measured for a total aggregate sample of 30. The results reveal the effect size, the magnitude of the relationship between the pre-and post-educational intervention survey results was 0.881 This indicates a strong relationship because the

number is close to one. The significance value (p) of the two-tailed test is 0.003 which is interpreted as, the means are not the same between the pre-and post-test and we can reject the null. The North Chicago sample group had a Pearson correlation coefficient of 0.914 which also indicates a strong relationship between the two variables and the sig.(p), of the two-tailed test was .000. In the Winnetka sample, the Pearson correlation was 0.706 and the sig. (p), for the two-tailed test was 0.003. We reject the null in the individual samples and determine that the means are not the same for the pre-and post-educational intervention surveys.

Coding Process

The coding process identified was stated as the number of correct answers in the pre-intervention survey and the number correct in the post-intervention survey. The coding assigned to the demographic survey was based on female and male receiving a 1 or 2 value, the age was a number, the schooling was based on a number for each category, marital status was two numbers, employment was two numbers, if the person had children or not was two numbers , gender was assigned a number and so was ethnicity. This was identified as follows:

- Gender: Female=1; Male=2
- Age: Actual age (number)
- Ethnicity: 1=Caucasian; 2=Hispanic/Latino: Black/African=3: Other=4: Asian=5
- Highest Degree: High School/GED=0: Associates 1: Bachelors=2: Masters=3: Doctorate =4
- Marital Status: Married=1: Not married=2
- Employment: Employed=1
- Not employed =2
- Children: Yes=1: No=2

Tests Run

The statistical tests were run on the IBM SPSS software Version 26. The data was compiled for the aggregate pre-and post-intervention test, the Winnetka pre-and post-educational intervention test and the North Chicago pre-and post-educational intervention test. There were 30 aggregate samples and 15 each for the Winnetka and North Chicago samples. SPSS data generated central tendency data-means, modes, and medians. The Paired Samples test (T-Test) produced the standard deviation (SD), the standard error of the means (SEM), the confidence intervals, the t value, the degrees of freedom (df) and the sig. (2-tailed). The SD is the measure of variability of the samples and for normally distributed data, 95% of the values will be within two standard deviations from the mean. The standard error of the mean (SEM) measures the chance variation in the data. As the sample size increases, the SEM will decrease. The SEM is most useful for calculating a confidence interval and p values (Filed, 2018). The p-value or probability value was used to quantify the statistical significance of the tests. It was valuable in allowing this researcher to reject the null hypothesis and verify that the means of the pre-and post-tests were different.

The Pearson Correlation was also used and is a measure of strength of the linear relationship between two variables. It is also known as the “correlation coefficient”. It is used to statistically identify the relationship and strength of the relationship between two continuous variables. It identifies the positive or negative correlation between the variables where the value that is closest to or equal to 1, or - 1, indicates a strong agreement. The Cronbach alpha test was run which is the reliability statistic and number of 0.9 and above are to have excellent internal consistency (coefficient alpha) (Polit, 2010).

Project Findings and Results

A broad overview of the pre-and post-educational session surveys, are depicted in Table 1-1 and reveal the following:

The mean correct answers in the aggregate samples of the pre-test was 30.10 (out of 42 questions) with a standard deviation (SD) of 7.976 and a standard error of the mean (SEM) of 1.456. There were only 30 samples and this number would be stronger with a larger sample. The formula for SEM is; SD/√N (sample size). The smaller the number the greater the confidence that the sample represents the population estimate (Polit, 2010).

The aggregate post-correct answers were 34.27, with a SD of 6.680 and a SEM of 1.220. This reveals an improvement in the number correct after the educational intervention. The pre-test results for North Chicago was 26.13 correct and the SD was 7.891 and the SEM was 2.037. The North Chicago post-test correct answers were 30.13 which is an improvement and the standard deviation was 7.891 with a SEM of 1.756.

The Winnetka pre-test answers correct were 34.07, with a SD of 5.982 and a SEM of 1.544. The SEM is higher than in the aggregate because the sample size is half (15). The Winnetka post-education correct answers were 38.4 which indicates an improvement and the SD was 3.089 and the standard error was 0.798. This is a low number and the data is very reliable in relation to the population mean.

The post-tests for both samples had an increase in the number of correct answers and the SEM decreased. This indicates that the educational intervention was effective in improving the nutrition health literacy of the sample and this was a good representation of each sample population.

Paired T-Test

Table 1-1

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Agg Pre	30.10	30	7.976	1.456
	Agg Post	34.27	30	6.680	1.220
Pair 2	Winn Pre	34.07	15	5.982	1.544
	Winn Post	38.40	15	3.089	.798
Pair 3	NC Pre	26.13	15	7.891	2.037
	NC Post	30.13	15	6.802	1.756

Higher Level Inferential Analysis

Recalling the research question, the focused results can be associated within a defined context. The research question is as follows:

Does a nutrition education intervention, given to the sample groups after a pre-intervention survey assessment, improve nutrition literacy knowledge in the samples, as measured by the same survey given post-nutrition education intervention?

The higher-level inferential analysis obtained from the survey results was used to infer trends of a larger population based on a study of a sample within that population (Polit, 2010). The results that follow illustrate the results from the paired t-test. The paired t-test was used because the samples were the same, but we measured the group means before and after an intervention (Polit, 2010). Referring to Table 1-2, results were as follows:

The statistical results indicate that the nutrition literacy of both groups improved after the nutrition education was given. The p value of the paired samples test scores was 0.000 to 0.002. There was a strong positive correlation between the education variable and the amount of questions answered correctly. Referring to Table 1-2, we rejected the null hypothesis in all cases; with the aggregate sample, in the North Chicago sample, and in the Winnetka sample. For the aggregate sample;

p=the number of questions correct before the intervention.

P=the number of correct answers after the intervention.

The null hypothesis is H_o: p=P

The alternative hypothesis is H_A: p≠P

We reject the null in the aggregate sample: H_O: (t=-2.752, p=.000). We accept the alternative hypothesis. Therefore, the means for the amount of questions answered correctly in the pre- and post-intervention surveys were not the same.

We reject the null in the Winnetka sample: Ho: (t=-1.904, p=.002). We accept the alternative hypothesis. Therefore, the mean for the questions answered correctly in the pre-intervention survey was not the same as in the post-intervention survey.

We reject the null in the North Chicago sample: Ho: (t=-4.797, p=.000). We accept the alternative hypothesis. Therefore, the mean for the pre-intervention survey was not the same as the post-intervention survey.

Table 1-2

Paired Samples T-Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Agg Pre – Agg Post	-4.167	3.788	.692	-5.581	-2.752	-6.024	29	.000
Pair 2	Winn Pre – Winn Post	-4.333	4.386	1.132	-6.762	-1.904	-3.826	14	.002
Pair 3	NC Pre – NC Post	-4.000	3.229	.834	-5.788	-2.212	-4.797	14	.000

In Table 1-3, the paired samples t-test shows the difference in the means of the two samples. The 95% confidence interval (CI) provides the range that shows 95% of the mean values of the samples fell between the lower and upper limits (Field, 2018). This is illustrated by the significance (Sig. two-tailed) being less than 0.05. There were significant differences in the means between the pre- and post-intervention results. There was a positive correlation meaning the results of the correct answered improved with the education intervention. The correlation coefficient was close to 1.0 in the aggregate, the Winnetka and the North Chicago paired samples which indicates a strong positive relationship between the intervention (education session) and the positive change in correct answers. Table 1-3a depicts the raw data of the Pearson correlation and then it is individualized into the aggregate and the N.C. and the Winn. Results (Tables 1-3b and Table 1-3c).

Table 1-3a

Correlations for Individual Sites (Raw Data)

		Winn. Pre	Winn. Post	N.C. Pre	N.C. Post
Winn. Pre	Pearson Correlation	1	.706**	.277	.240
	Sig. (2-tailed)		.003	.318	.388
	N	15	15	15	15
Winn. Post	Pearson Correlation	.706**	1	.373	.330
	Sig. (2-tailed)	.003		.171	.229
	N	15	15	15	15
N.C. Pre	Pearson Correlation	.277	.373	1	.914**
	Sig. (2-tailed)	.318	.171		.000
	N	15	15	15	15
N.C. Post	Pearson Correlation	.240	.330	.914**	1
	Sig. (2-tailed)	.388	.229	.000	
	N	15	15	15	15

**. Correlation is significant at the 0.01 level (2-tailed).

Table 1-3b

Paired Samples Correlations: Aggregate

		Aggregate Pre	Aggregate Post
Aggregate Pre	Pearson Correlation	1	.881**
	Sig. (2-tailed)		.000
	N	30	30
Aggregate Post	Pearson Correlation	.881**	1
	Sig. (2-tailed)	.000	
	N	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

Table 1-3c

Paired Samples Correlations: All Samples

		N	Correlation	Sig.
Pair 1	Agg Pre & Agg Post	30	.881	.000
Pair 2	Winn Pre & Winn Post	15	.706	.003
Pair 3	NC Pre & NC Post	15	.914	.000

Table 1-4 reveals the reliability coefficient which is an illustration of the degree of reliability/consistency of the instrument used to measure the results (Polit, 2010). The reliability index ranges from 0.00 to 1.00. The Cronbach's alpha test was used as the reliability coefficient and the result was 0.929 which is an indication of an excellent internal consistency as it is greater than 0.9 (Field, 2018; Li, 2018).

Table 1-4

Reliability Scale: ALL VARIABLES

Reliability Statistics

Cronbach's Alpha	N of Items
.929	2

Table 1-5 refers to the case processing summary and this informs the user that all data that SPSS program used in the analysis was complete and was used in the analysis (Field, 2018).

Table 1-5

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Results within the Course and other Sources

The results of the paired-sample-test reveal a sig. (two-tailed), p value that is < .05 in the aggregate, the Winnetka and North Chicago samples. This is verified when consulting critical values for the t distribution table (Polit, 2010). The degrees of freedom for the aggregate sample is 29 (30-1) and the t value is 2.05 on the table. The SPSS data resulted in a t value of -6.024. From this result, we can conclude that the experimental t-value (smaller than the value found on the df chart) means that the two groups, the pre-and post-education samples, have results that are significantly different. The results are the same for each individual test.

Descriptive Results

Table 1-6 depicts the percent of answers answered correctly in the aggregate and individual groups and the percent change in the results, post-intervention.

Table1-6

Percent of Correct Pre-Post- Intervention and Percent Improvement

Sample	Aggregate	North Chicago	Winnetka
Pre-intervention # correct	30.10	26.13	34.07
Post-intervention # correct	34.27	30.13	38.4
Improvement post-intervention # correct (%)	9.9	9.5	10.3

The aggregate post-correct answers reveal a 9.9 % improvement in the number of correct answers in the post-education test. Individual sites are also positive for post-test improvement. The post-test results for North Chicago reveals a 9.5 % improvement in the number of correct answers after the education intervention. The Winnetka sample had a 10.3% improvement in the number of correct answers after the educational intervention.

Demographic Data and Analysis

The demographic survey was given to each participant and it was self-reported information. As we can see from Table 1, the mean age of the aggregate group was 38.87 years. Most of the aggregate group was female (76.65%) with high frequency at both sites. All of the participants had one or more children in the 0-18-year-old range as documented on the raw data. 66.7% of the aggregate group was married but only 40% in the N.C. group and 93.3% in the Winn. group.

Table 2-1

Age, Sex, Marital Status

Sample	Aggregate	North Chicago	Winnetka
Age, Mean (Years)	38.87	37.27	39.67
Female %	76.65	80.00	73.30
Male %	23.35	20.00	26.70
Children %	100.00	100.00	100.00
Married %	66.7	40.0	93.3

Table 2-2 reveals that 50% of the aggregate group were Caucasian but 100% were from the Winn. group. The N.C. group was a diverse mix of Hispanic/Latino, Black/African, a small group were Asian, and some were in the "Other", category.

Table 2-2

Ethnicity

Sample	Aggregate	North Chicago	Winnetka
Caucasian %	50.0	0.00	100.0
Hispanic/Latino %	23.3	46.7	0.00
Black/African %	16.7	33.3	0.00
Asian %	3.3	6.7	0.00
Other %	6.7	13.3	0.00

The employment and education section revealed some important differences. Fifty percent of the aggregate sample was employed, the most were from the N.C. sample (73.3%) and only about one quarter (26.7%) of the Winn. sample was employed. That could imply that most of the N.C. sample were one or more working parents while most of the Winn. sample was one or more stay-at-home parents.

The aggregate data reveals that most of the samples had either high school degree/GED or bachelor's degrees (36.7% and 40%, respectively). The individual sites illustrate the highest

frequency of education obtained in the N.C. site was a high school/GED degree (66.6%) and the Winn. site had the highest percentage of participants with bachelor's degrees (73.3%) achieved.

Table 2-3

Employment and Education

Sample	Aggregate	North Chicago	Winnetka
Employed %	50.0	73.3	26.7
HS/GED %	36.7	66.6	6.7
Associate %	13.3	20.0	6.7
Bachelors %	40.0	6.7	73.3
Master or higher %	10.0	6.7	13.3

Results Implications

Nutrition health literacy as measured by the correct answers in the pre-intervention test, as illustrated in Table 1-1, does differ between the two samples but improvement in correct answers were achieved in both samples.

The intervention, the nutrition education session, improved participant's knowledge of the nutrition health literacy survey. However, in both tests, the North Chicago sample had fewer correct results in the pre-and post-education education intervention surveys than the Winnetka sample.

The research has shown that educational levels have an impact on the level of health literacy and the health status of a population (Gibbs, et al., 2016). The level of education achieved in the NC group was 66.7% (high school or GED) and 20% had an associate degree. The Winnetka group had 53.3% of the sample with a bachelor's degree and 40% with a master's degree. and use demographics to explain. The study result shows a relationship between health

literacy and demographic factors and not causal inferences (CDC, 2018). However, both groups had a statistically significant improvement in the correct answers after the education intervention. The p value was 0.000-.003 in all of the results.

Recommendations

The recommendations that can be drawn from the is analysis are multifaceted. They begin with the advantage of implementing the use of a nutrition education tool to parents of school-age children with the objective of improving their nutrition health literacy. Because the nutrition health literacy of the parents can improve with education, more nutrition education should be offered to parents of school age in the community. Nutrition education sessions should be regularly provided to populations who demonstrate at-risk health consequences as a result of poor nutritional intake. A large-scale nutrition intervention that includes nutrition education should be provided and evaluated for a longitudinal study to assess changes in nutritional health indicators.

Implications for Research and Practice

Limitations

The limitations to this study include obtaining a larger sample size. Although the preliminary data is positive suggesting positive change with strong statistical results, across different socio-economic groups, a larger sample is required.

Also, there was a short time between pre-and post-education intervention and long-term educational retention would be advantageous to measure. A post, three-month follow-up was not feasible dur to the anonymity of the participants and the low access to the participants after the initial session. Not all of the participants had string computer literacy which was required for a three-month virtual follow-up.

The attendance rate was low in aggregate and it was difficult to get the parents to commit to a session that was approximately1-1.5 hours when they had children at home or tasks to attend to. Perhaps a more remote means of reaching large numbers of people would be more successful although access to computers or smart phones may present a barrier to the groups who might benefit most from the study.

Research grants would be most desirable to use for a study that is required because the costs involved with duplicating surveys, presenting participants with educational material for home use and the food costs to attract participants are money intensive. Multi-disciplinary participation in a large-scale study that includes nursing, nutrition and perhaps behavioral and marketing professionals would be a team effort with multi-faceted dimensions. As health literacy is a complex problem contributing to multiple disease states, multiple approaches are needed to address and find solutions to the delivery and dissemination of information.

Recommendations & Summary

Nutrition is a major factor in six out the ten leading causes of death due to chronic diseases in the United States (USDHHS, 2015). Nutrition literacy is an intrinsic component of health literacy and this is correlated with the health status of families. Due to the socio-economic conditions of at-risk communities, the consumption of cheap and fast foods create health disparities is common. Food deserts, low access to healthy foods, working and/or single parents, low education levels, and poverty are more likely to lead to unhealthy eating patterns are common in American diets (Reedy, J., Krebs-Smith, 2010).

The use of this nutrition literacy too (NLit) is a reliable and valid tool for measuring nutrition literacy in adults with school-age children in different socio-economic settings. More research is required to assess if the efficacy of a nutrition education intervention on a large scale,

will lead to improved nutrition literacy. By identifying effective methods and means of delivery to improve nutrition literacy of parents with school-age children, all adults and families, we will be able to assess successful interventions and measure the improvement of diet patterns and changes in health status.

Nurses are front-line health educators and their responsibility to the community is an essential component of their practice and/or service values. By identifying deficits that are health related in the community, best-practice changes can be implemented and local, state, national and global policy health can be changed! Our school-systems and faith-based community activities are accessible and trusted sources of information dissemination. Working in conjunction with local health departments and including nutrition education in their care plan of patients at risk and communities at risk, is a positive approach to alleviating health consequences from poor dietary intake.

The education of parents is directly associated with their health literacy (Gibbs, et al, 2016). Children are dependent on their parents for food preparation and nutrition health modeling. Improving the health literacy of population is a Healthy People 2020 goal (Healthy People, 2018). Because we are witnessing early chronic disease onsets on young adults, this is an important problem to address. By educating parents and introducing more nutrition education in schools combined with increased physical activities, the hope is to decrease the onset of nutrition related chronic diseases that begin in childhood. Nursing theories of change, motivation, healthcare education delivery and cultural sensitivity are the basis for our nursing leadership roles.

The quality improvement initiative attempted to identify the health literacies of the parents of school-age children, in two demographically distinct communities, within the State of Illinois. An intervention of health education was evaluated for its' efficacy.

The primary outcomes of the study reflect the value of parental nutrition health literacy education and the potential to improve the health status of children and families. This includes health promotion activities within the family structure, such as making healthy food choices through cooperative meal planning and preparation and increasing energy expenditure on a daily basis. Water and 100% fruit juices should be substituted for sugar sweetened beverages. Family walks and biking should be implemented into the activities, as well as disease prevention routines such as annual physicals, vaccinations, and dental visits. The long-term outcomes will aid in achieving and maintaining children's healthy BMI's throughout their lifecycle. The goal is to achieve and maintain healthy youth populations, who demonstrate positive psycho-social and physical behaviors into young adulthood. Parents must model health and wellness behaviors by maintaining healthy lifestyles, as well. Study projects such as the one described within will contribute to the evidence that by improving parental nutrition health literacy, we will improve the health of our children.

The future DNP trained nurse has a professional responsibility to affect positive changes in their practice, and through the example of the present study, via a quality improvement project. Culturally sensitive solutions must be incorporated in the approaches and the socio-economic factors considered. This author's goal is to identify an effective intervention that may improve and/or reverse the trend of childhood overweight and obesity in the United States, one community at a time.

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Appendix

Appendix I: Conceptual Diagram

Appendix II: CITI Training Certificate

Appendix III: Systematic Review of Literature

Appendix IV: Measurement Tool

Appendix V: Full Board Application

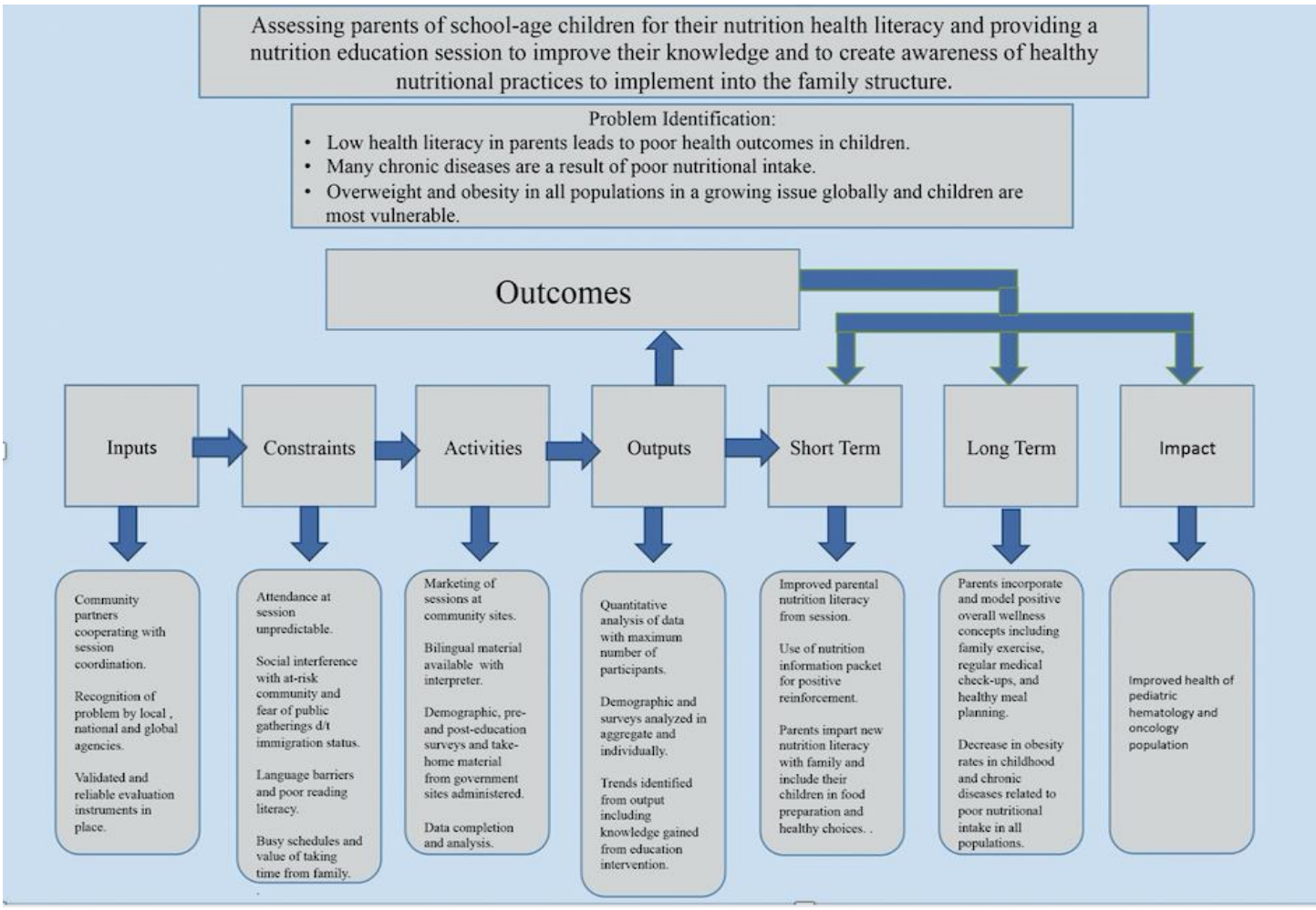
Appendix VI: Agency Support Letters

Appendix VII: IRB Approval Letter

Included in body of paper:

- Logic Model
- Timeframe
- Budget and Funding Source

Appendix I: Conceptual Diagram (see below)


Assessing parents of school-age children for their nutrition health literacy and providing a nutrition education session to improve their knowledge and to create awareness of healthy nutritional practices to implement into the family structure.
Problem Identification:
• Low health literacy in parents leads to poor health outcomes in children.
• Many chronic diseases are a result of poor nutritional intake.
• Overweight and obesity in all populations in a growing issue globally and children are most vulnerable.
Outcomes
Inputs
Constraints
Activities
Outputs
Short Term
Long Term
Impact
Community partners cooperating with session coordination.
Recognition of problem by local , national and global agencies.
Validated and reliable evaluation instruments in place.
Attendance at session unpredictable.
Social interference with at-risk community and fear of public gatherings d/t immigration status.
Language barriers and poor reading literacy.
Busy schedules and value of taking time from family.
Marketing of sessions at community sites.
Bilingual material available with interpreter.
Demographic, pre- and post-education surveys and take-home material from government sites administered.
Data completion and analysis.
Quantitative analysis of data with maximum number of participants.
Demographic and surveys analyzed in aggregate and individually.
Trends identified from output including knowledge gained from education intervention.
Improved parental nutrition literacy from session.
Use of nutrition information packet for positive reinforcement.
Parents impart new nutrition literacy with family and include their children in food preparation and healthy choices. .
Parents incorporate and model positive overall wellness concepts including family exercise, regular medical check-ups, and healthy meal planning.
Decrease in obesity rates in childhood and chronic diseases related to poor nutritional intake in all populations.
Improved health of pediatric hematology and oncology population

Appendix II: CITI Training Certificate (see below)

CITI
Collaborative Institutional
Training Initiative
CITI
Collaborative Institutional
Training Initiative
CITI
Collaborative Institutional
Training Initiative

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2 COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

• Name:
• Institution Affiliation: • Institution Email:
• Institution Unit:
• Phone:

• Curriculum Group:
• Course Learner Group: • Stage:

• Record ID:
• Completion Date: • Expiration Date:
• Minimum Passing: • Reported Score*:

Sheila Robbins (ID: 4155981) Regis University (ID: 745) srobbins003@regis.edu Nursing

8479708076

Human Research
Social Behavioral Research Investigators Stage 1 - Basic Course

30565672 13-Feb-2019 12-Feb-2022 80

100

REQUIRED AND ELECTIVE MODULES ONLY

Unanticipated Problems and Reporting Requirements in Social and Behavioral Research (ID: 14928) Populations in Research Requiring Additional Considerations and/or Protections (ID: 16680) Conflicts of Interest in Human Subjects Research (ID: 17464) History and Ethical Principles - SBE (ID: 490)

The Federal Regulations - SBE (ID: 502)
Assessing Risk - SBE (ID: 503)
Informed Consent - SBE (ID: 504)
Privacy and Confidentiality - SBE (ID: 505)
Defining Research with Human Subjects - SBE (ID: 491)
Ethical and Practical Considerations in Community-Engaged Research (CEnR) (ID: 16996) Students in Research (ID: 1321)

DATE COMPLETED

12-Feb-2019 12-Feb-2019 12-Feb-2019 12-May-2014 12-May-2014 12-May-2014 12-May-2014 12-May-2014 12-May-2014 13-Feb-2019 12-May-2014

SCORE

5/5 (100%) 5/5 (100%) 5/5 (100%) 5/5 (100%) 5/5 (100%) 5/5 (100%) 5/5 (100%) 5/5 (100%) 5/5 (100%) 10/10 (100%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing

Appendix III: Systematic Review of Literature

Article/Journal	Maternal Health Journal 22:958-967: Challenges and Facilitators to Promoting a Health Food Environment and Communicating Effectively with Parents to Improve Food Behaviors of School Children.	The American Journal of Occupational Therapy. Relationship Between Physical Activity and Overweight and Obesity in Children: Findings from the 2012 National Health and Nutrition Examination Survey National Youth Fitness Survey.
Author/Year	Luesse, H., Paul, R., Gray, H., Koch, P., Contendo, I., Marsick, V. 2018	Hong, I., Cocker-Bolt P., Anderson, K.R., Lee, D., Velozo, C.A. 2016
Database/Keywords	Key Words: Home environment; Childhood Obesity; Social cognitive theory.	Keywords: behavior; motor activity; physical fitness; overweight; pediatric obesity. NHANES 2012.
Research Design	Qualitative Study. Semi-structured Focus Group interviews	Cross-sectional design. Analyzed 2012 NHANES National Youth Fitness Survey. Multivariate logistic regression models.
Level of Evidence	Level 1: Presents possible barriers and challenges for DNP project.	Level 1: Balances energy input-output with healthy food intake of children.
Study Aim/Purpose	The purpose was to see if parents could influence good eating habits by demonstrating food prep at meals and what barriers existed. The family participation in meal prep. through modeling and eating as a family. Obesity prevention programs at school incorporating ways to reach parents re: food education. Text messaging parents was used. Based on Banduras Social Cognitive Theory.	To study the relationship between childhood obesity/overweight with functional activity and its enjoyment. To identify risk factors for children ages 3-15 who are overweight or obese. To identify existence of a relationship between childhood obesity and functional limitations. To examine differences in the enjoyment of activity between the overweight /obese children vs. non-obese/overweight children.
Population/Sample size Criteria/Power	Population was 16 low income families in NYC: 94% female; 88% Hispanic/Latino; 12% African-American families of school age children.	Data for 1640 children ages 3-15. Retrieved from NHANES 2012 data. All data was collected through interviews of children and their parents at home or at mobile interview centers.
Methods/Study Appraisal Synthesis Methods	Focus groups (4) conducted in low ES in NYC Nov. 2103-Jan. 2014. Hispanic and African American elem. students. Focus group done with parents in school. Tw in Spanish two in English. Home environment and Communication were domains addressed. Recorded and non-verbal responses noted.	Boys made up 50.2 % (n=823) and girls 49.8% (n=817). Ave. age =9.0 yo. Non-Hispanic white=39% (n=639); Hispanic=30.2% (n=495); African American=22.7% (n=372). And other=8.1% (n=143). BMI resulted. Demographics categorized. Functional limitations assessed through a survey. Descriptive stats used for Demographics; multivariate logistic regression models to estimate adjusted odds ratios for weight status' and functional ability.

Primary Outcome Measures/Results	Children's preferences were major considerations at mealtime. Pickiness posed a barrier to fruit and vegetable consumption. Cost and accessibility were not major barriers. Text messaging parents was acceptable in some cases.	There was a 34.6% total obesity rate. Boys more than girls (37.1% v. 32%). Adolescent was higher than middle higher than early childhood (38.8% v. 32.9% v. 30.6% respectively). Hispanics were more obese than non-Hispanic whites. TV hours + association with obesity and days of physical activity – association with obesity/overweight. Enjoyment of physical activity did not differ among obese/OW v. healthy weight children. Obese/OW association with late crawling/running/ and playing-loss of functional activity.
Conclusions/Implications	The importance of modeling good behaviors at home and coping with dislike of vegetables. Parents likes the personal communication given through text messaging and the voice of authority. Written material was also appreciated.	Of physical activity. Health care providers should promote 60 min/day. All groups enjoy physical activity. This points to the need to encourage P.A. and to identify any barriers to non-participation.
Strengths/Limitations	Limitations: Self-reporting non-verified. Translations not verified. Small sample size. Strength: Expand on this work with social media and internet communication with parents. Good use of SCT in home environment. Culturally sensitive.	Limitations: Aside from BMI and physical measurements, survey answers from the children was primary response data and may have recall bias, misunderstood questions and gave socially acceptable answers. Nutrition factors and medical conditions were not validated. Validation of enjoyment of physical activity for obese /OW children is needed.
Funding Source	No external funding just parent coordinators time in NYC public schools.	CDC for NHANES survey data.
Comments	Good data and reinforces basic knowledge of family involvement and different ways to communicate with the families. Special attention appreciated. Technology acceptable as means of communication.	Valid data from NHANES. Good sample size. Good info relating physical activity to obesity and OW in children.
Other	Social Cognitive Theory-Bandura: Culturally Sensitive	OT research-x-functional

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Article/Journal	Journal of Pediatric Nursing 37(2017)57-61. Parents' Underestimations of Child Weight: Implications for Obesity Prevention	Journal of Pediatric Nursing (2011)26, 435-445. Parental Perception of Preschool Child Body Weight.
Author/Year	Howe, C.J., Alexander, G., Stevenson, J. (2017)	2011. Garrett-Wright, D.
Database/Keywords	Keywords: Childhood overweight; Childhood obesity; Parent perception of weight status; Health literacy: Original questionnaire	Key Words: Preschool children; Body weight; Parent perception Quantitative analysis.
Research Design	Demographic questionnaire using the Newest Vital Sign & Child Body Image Scale. Recruited parents at local museum.	Descriptive, correlational, cross-sectional design. Based on Health Belief Model theo. framework. Self-reported instruments, two-sites-questionnaires. Child's biometric stats taken from health records at sites (health Depart and pediatrician office).
Level of Evidence	Level 1: New perspective on why/how contributing factors to children gaining weight without parental awareness.	Level 2: Background for study of parent perception-earlier study-dif. results-revised health belief model developed-thesis research Vanderbilt U.
Study Aim/Purpose	To explore potential factors that may contribute to why parents underestimate children's weights. This disconnect can contribute to why there is no parental intervention at the early stages. Consider: health literacy; SES; ethnicity	To determine parental perception of child weight and tp determine reasons for perceptions. 1/3 were OW and only6% of parents thought they were OW. Parental health literacy positively correlated with results.
Population/Sample size Criteria/Power	160 parents; 213 children ages 7-13. Racially and ethnically diverse. 36.6% parents had limited health literacy.	45 participants with children ages 2-5 yo. No statistical difference in results between the two sites.
Methods/Study Appraisal Synthesis Methods	Inclusion criteria: 7-13 yo. Parents had to speak sufficient English to understand and participate. Nov-Dec. 2016. 10 collection times. Tues and Sat. at museum. Free transportation and entry on Saturdays.	Pre-existing data of child's biometric info, parental demographics. Questionnaire to parents. Odds ratio results.
Study tool/instrument validity/reliability	Three separate mixed-effect models used. Used AIC. Null Model; Parent effects; parent child effects	Univariate; multivariate. Odds ratio: Confidence interval.
Primary Outcome Measures/Results	All parents underestimated child weight. Mean age parents=39 yo. Mean age children =8.9 yo.39% boys. All children were OW or obese. More children with parents who had low health literacy had obese/OW children (54% v. 40%). Positive relationship between child's age and underestimation of weight. A higher	30% parents had inaccurate perception of child's weight. No statistical difference between two sites of data gathering. No diff, between child's age, gender parental education. No diff. in parent's concern for child's health. Health literacy level was sig. different and was positively associated with accuracy of child's weight.

	percentage of parents underestimated child's weight than was previously reported.	
Conclusions/Implications	Race and ethnicity do not influence underestimation of weight. Mexican Americans prefer a larger body size. Parent education, health literacy, and income also did not contribute to results. Perhaps the perception of what OW/obese looks like has changed due to high prevalence. This could indicate lack of interventions with increasing weight if not perceived.	Consistent with literature -parents of OW children perceive child as underweight or appropriate. Health literacy is both cognitive and social skill-related and is positively related to accurate perception of child's weight status. Health literacy should be considered when addressing body weight in pre-school children. Newest Vital Sign allows providers to assess health literacy in 3 minutes (Sp. & Eng). Perceptions can affect child feeding patterns. RN's should be aware of health education needed in dif. Groups of parents.
Strengths/Limitations	Sample derived from museum/selection bias. Social desirability bias to present child in positive light. Sheds light on health promotion interventions needed.	Limitation: Small sample size. Homogenous. Predominantly female participants with HS education. Selective to pre-school children only. Poss. Differences in technical equipment between sites. Longitudinal studies could be beneficial.
Funding Source	Alma and Robert D. Moreton Research award. (Fort Worth Museum of Science and History).	Kappa Theta Chapter of Sigma Theta Tau.
Comments	Good study to understand that interventions may require reeducation of parents re: acceptable BMI's and need for earlier interventions.	Good background info. Helps to highlight need for nutrition education with appropriate information based on health literacy of parents.

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Article/Journal	Journal of Nutrition Education and Behavior 48(7) 2016. Assessing the Nutrition Literacy of Parents and Its Relationship with Child Diet Quality.	Patient Education and Counseling. 79(2010) 43-48. Relationship between child health literacy and body mass index in overweight children.
Author/Year	Gibbs, H., Kennett, A.R., Kerling, E.H., Yu, Q., Gajewski, B., Ptomey, L., Sullivan, D.	Sharif, I., & Blank, A.E. (2010)
Database/Keywords	Health literacy; Patient education; body mass index., pediatrics, food habits. Cross-sectional study-original	Keywords: Health literacy; Child Health literacy; Body mass index. Original survey.
Research Design	Cross sectional study of parent-child dyads. Measures SES, nutrition literacy, 2-24hour recalls, BMI. Reliability of NLit-P (Nutrition Literacy Assessment Instrument for Parents).	Cross-sectional survey of overweight children and parents. Parent and child's health literacy measured by Short Test of Functional Health Literacy (STOFHLA).
Level of Evidence	Level 1 Good use of survey instruments	Level 1: Substantiates relationship between health literacy and BMI (inverse). Consider health literacy as a strong intervention. Defines health literacy as an ability to read and interpret health information needed to make better health outcome decisions. .
Study Aim/Purpose	To estimate the reliability and validity of the NLit-P; investigate relationships between parental nutrition literacy, parent and child BMI, and child diet quality (Healthy eating Index).	This study was designed to assess whether high literacy in children is associated inversely with BMI. The belief is that children as young as 4 make food choice decisions on own.
Population/Sample size Criteria/Power	101 parent-child dyads enrolled. Parents were healthy between 16-36 yo, English speaking, primary food purchaser/or preparer, in Kansas City area. 10/2013-5/2014.	171 children. Median age=11.5. 53% Female. 80% Medicaid recipients. Children were already in a program for overweight children.
Methods/Study Appraisal Synthesis Methods	Convenience sample. longitudinal randomized controlled clinical trial investigation.	Children 6-19 yo. BMI at least 85% for age/sex. They received primary care at the health center in Bronx, NY study site. Ht and wt. measured. BMI obtained. The STOFHLA test administered to children, and parents. Eating Self Efficacy Scale administered to children (ESES). Likert scale from 1-7 used.
Study tool/instrument validity/reliability	Confirmatory Factor Analysis (CFA) tested relationships between observed variables and each domain. Pearson correlation and multiple linear regression.	Descriptive statistics used to understand survey. STOFLHA and parent education measured. Pearson correlation to measure child's STOFHLA and BMI.
Primary Outcome Measures/Results	These were SNAP and WIC participants. Parental nutrition literacy was positive correlation with child diet quality. Inverse relationship with adult BMI.	The results are promising and point to a need for an age-customized tool to measure health literacy in children.

	NLit-P correlated with child HEI. Education levels was significantly r/t nutrition and health, HH food measurement, food labels and food groups No relationship between parental food literacy and child BMI.	
Conclusions/Implications	NLit-P positively associated with adult education level, nutrition literacy, parental age and income, and child diet quality. An inverse relationship between education level and obesity.	Cross-sectional study that uses OW children and tests health literacy and BMI. Don't understand if this was good assessment tool for children and if high BMI associated with health literacy deficits as a result of. Good foundation for later studies of children's health literacy and need for a wider and larger sample size.
Strengths/Limitations	Small sample size to assess NLit-P More diverse group needed, and better interpretation of literacy scores.	This was a pilot study and a larger sample size needs to be conducted of random weighted children. But the results are good r/t health literacy and BMI. Longitudinal study would be beneficial. We don't know if higher health literacy causes lower BMI or if higher BMI causes deficits that decrease health literacy.
Funding Source	Eunice Kennedy Shriver National Institute of Child Health and Human Development and KU Endowment.	Pfizer "Clear Health Communication" grant.
Comments	Good study to be able to use NLit-P and HEI as an assessment tool. Also, validated education level inversely r/t obesity.	First study that looked at child's health literacy and BMI correlation. (Inversely related).

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Article/Journal	Public Health Reports:123(2):117-125. Prevalence of Obesity Among Children in Six Chicago Communities: Findings from a Health Survey	Los Angeles County Department of Public Health. 1-20. 2013. Examined data from all government sources including census info., median incomes, economic hardship data (EHI), and other indicators of health equities.
Author/Year	Margella-Anast, H., Sah, A.M. & Whitman, S. 2008	County of Los Angeles Department of Public Health. 2013.
Database/Keywords	No Key Words: NCBI database. Original data	CDC; WHO; SGC.ca.gov; Alameda County Public Health Dept.; Seattle King County Public Health
Research Design	Community Health Survey	The report is one of a series that assess data from various government sources.
Level of Evidence	Level 1: Relevant to Chicago area	Level 1 for perspective and prototype overview of social determinants of health.
Study Aim/Purpose	To assess levels of obesity and overweight among children in six diverse communities in Chicago compared to national estimates.	To illustrate how the social determinants of health affect the lives of people and to design an action model to achieve Healthy People 2020 goals.
Population/Sample size Criteria/Power	501 randomly selected children ages 2-12. Determined BMI and classify weight status.	Information across LA County including demographic, education, and Economic Hardship Index (EHI) from the US Census Bureau data (2005-2009).
Methods/Study Appraisal Synthesis Methods	The "Sinai Improving Community Health" survey was conducted through a cross-sectional study of six of Chicago's 77 officially designated community areas.	Examined data from US government sites that were indicators of health equities. Mostly demographic data and income data.
Study tool/instrument validity/reliability	A stratified three-stage probability sampling design.	Data extraction from government statistics.
Primary Outcome Measures/Results	The prevalence of obesity in the five predominantly minority communities was 2-3x higher than the U.S. as a whole. The minority neighborhoods were significantly higher than the non-Hispanic white neighborhoods.	LA County poverty rate is higher than any other county in the state despite having the greatest wealth within the boundaries. There is lack of affordable housing with very low incomes and low education levels among citizens in the county.

Conclusions/Implications	Nearly half of the children ages 2-12 in the five of six Chicago communities were obese compared to 16.8% nationally. The extent of racial and ethnic disparities documented is more pronounced than previously reported in other geographic areas.	The author states that improving the overall social and economic status of LA County will result in improved health status' and longevity while increasing economic productivity in the area.
Strengths/Limitations	Only six of 77 community areas were surveyed. National data was derived from measured height and weights and tis data was from caregiver reporting. Future studies should examine caregiver accuracy of height and weight reporting.	This information was retrieved from factual data and statistics from reliable sources within government agencies. This is informational with no limitations.
Funding Source	Robert Wood Johnson Foundation Grant ID# 043026 and the Chicago Community Trust ID#C2003-00844 and the Michael Reed Trust.	Los Angeles Public Health Department and the Centers for Disease Control and Prevention.
Comments	Great data that shows the obesity rates higher among minorities in Chicago than on national average. Weights are higher than in the non-Hispanic whites in one community.	This is a good article for basic information regarding the factors that determine the social health of a community and presents models for improvement. It compares valid government data.

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Article/Journal	American Journal of Kidney Disease. 70(1):38-47. Food Insecurity, CKD, and Subsequent ESRD in US Adults.	American Journal of Public Health. 108(9). Racial/Ethnic Differences in the Effectiveness of a Multi-sector Childhood Obesity Prevention Intervention.
Author/Year	Banarjee, T., Crews, D.C., Dharmarjan, S., Saran, R., Burrows, N.R., Saydah, S., & Powe, N.R. 2017	Nelson, C., Colchmiro, R., Perkins, M., Taveras, M/K., Leung-Sterle, P., Kwass, J., & Woo-Biadal, J. 2018
Database/Keywords	Key Words: Food insecurity; Nutrient intake; Dietary acid load; Dietary patterns; End-stage renal disease; Incident ESRD; Kidney disease progression; Disease trajectory; Modifiable risk factor; poverty; Health disparities; Socioeconomic factors; Food deserts; Chronic kidney disease. Data from NHANES.	Massachusetts Department of Public Health. Open themed research. Peer-reviewed. No Key words.
Research Design	Longitudinal Cohort Study	WIC children in a multi-sector, quasi-experimental study in two MA-CORD intervention communities with WIC data from 2011-2015.
Level of Evidence	Level 1. Shows how health disparities affect other chronic conditions.	Level 1-Illustrates obesity prevention programs.
Study Aim/Purpose	To understand the role of food insecurity with the progression of early stage CKD to ESRD.	Mass. Dept. of Public Health, the Harvard T.H. Chan School of Public Health, and Mass. General implemented and tested multi-level, multi-sector approaches to preventing and treating obesity among children 2-12 in two Mass. communities. RD's were trained in interventions. BMI's were measured before and after interventions. A longitudinal sample was drawn from WI records of 1461 children.
Population/Sample size Criteria/Power	Use of NHANES III national probability sample for 1988-1994. The CKD participants, n=2320; non-CKD participants=10,448.	1461 children ages 2-12 yo in two Massachusetts communities (intervention communities) and 1 comparison community. Multilevel regression models with an interaction term used.
Methods/Study Appraisal Synthesis Methods	Demographics, income, diabetes, HTN, est. glomerular filtration rate, and albuminuria. Dietary acid load. Fine-Gray competing-risk model to estimate the relative hazard (RH) for ESRD associated with food insecurity. Covariates adjusted.	Three-way interactions of *race/ethnicity; exposure time; time x race/ethnicity* and *language* were measured.
Study tool/instrument validity/reliability	Longitudinal Cohort Study-retrospective data.	Data retrieved from retrospective NHANES longitudinal cohort study.

Primary Outcome Measures/Results	Those with early CKD who had food insecurity were 2.8x more likely to progress to ESRD than those who were not food insecure. In the non-CKD group, food insecurity was not associated with risk for ESRD. In the general population with income< 400% the federal poverty limit, there was no association between food insecurity and ESRD.	BMI results were positive for ethnic intervention groups/a decrease in BMI resulted every additional year following the intervention. However, the non-intervention group resulted in an increase in BMI. Health behaviors did not change for either group but a decrease in sugar-sweetened beverage intake and an increase in sleep hours was seen in the intervention group.
Conclusions/Implications	Food insecurity may be a factor in higher likelihood of developing ESRD if CKD is present. There was no association to progression to ESRD if CKD not present nor if they were food secure.	White children had a decrease in BMI in both the control and intervention groups and the non-Hispanic black children had a greater decrease in BMI than the other groups.
Strengths/Limitations	The strength of the study was the very large sample size. I did not perceive any weaknesses. All factors besides food insecurity were controlled. Food insecurity was associated with poverty, independently, as well.	The strengths of the study were the longitudinal cohort and number of participants. Measure were retaken over a period of years. The limitations were that there were a high number of Asians on the study and they have low rates of obesity. This confounding factor was corrected with sensitivity analysis. Also, the parents reported behavior changes.
Funding Source	Cooperative Agreement Letter CDC Atlanta IU58DP003839. A grant from the National Institute of Diabetes and Digestive and Kidney Diseases. NIH.	National Center for Disease Control and Prevention and Health Promotion. National Institute of Diabetes and Digestive Kidney Diseases and the NIH.
Comments	Good data making the association between poverty and food insecurity will contribute to ESRD if CKD exists. It is evidence for food insecurity contributing to a chronic and fatal condition.	This was a very informative study re: the interventions to prevent and promote healthy weights in children. Very good data and a very strong study.

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Article/Journal	Preventing Chronic Diseases 14: E134. Promoting Children's Physical Activity in Low-Income Communities in Colorado: What Are the Barriers and Opportunities?	Journal of Pediatric Nursing. 37:3-7 2013
Author/Year	Finklestein, D.M., Petersen, D.M., & Shottenfedl, LS. 2017	McCormick, R. 2013
Database/Keywords	No key words. Data base original data: Focus group surveys.	Key Words: Green space; Access; Mental health; Stress; Children Lit. review
Research Design	April-July 2016: Focus groups conducted in five different communities. Twenty focus groups, 128 parent participants and 42 youth. 8 stakeholders were interviewed.	Literature review of 341 articles in Ovid, 81 in PubMed, and 123 in Scopus.
Level of Evidence	Level 1: Incorporates the need for exercise as a health factor in improving school children health status.	Level 1: Importance of green space for child's mental health/another aspect of health equities.
Study Aim/Purpose	Colorado has the highest rate of adult physical activity in the US but the children especially of lower SES have a lower rate of activity than other states in the US.	The study was based on the evidence that green space and outdoor activities improve overall children's health including mental and behavioral issues.
Population/Sample size Criteria/Power	20 focus groups. 128 parents. 42 children. 8 Stakeholders. Focus groups, surveys and interviews were conducted. Five communities with low incomes, or equal to 200% federal poverty level. Communities were 2 in a large urban area, one on the Western Slope and one in the Mountain Range and one on the eastern Plains region. 77% women, 54% white, 33% Hispanic.	Lit reviews included quantitative studies, questionnaires, surveys, Rom large groups of children. The data was verified through various means of analysis and similar themes were resulted.
Methods/Study Appraisal Synthesis Methods	Qualitative study using three data sources: Focus groups with parents and youth; interviews with community stakeholders; Intake survey with focus group participants.	A variety of comprehensive means of studies conducted for mental well-being of children and access and time spent outdoors.
Study tool/instrument validity/reliability	Results of data/statistics.	Statistical verification.
Primary Outcome Measures/Results	81% parents had positive views of physical activity. There were barriers to having children active physically such as; parents' work schedule, child's lack of interest/apprehension; School and family commitments of youths; Cost of activities; Traffic safety; exposure to unsafe or illicit activities in public spaces; limited access to high quality facilities; transportation; neighborhood inequities; lack of	One quantitative study found that children having access to open areas outdoors during their school day relieved stress, improved focus, built confidence and formed social groups. Memory was improved in the 7-10 year old group and improved cognitive development.

	information; limited community engagement.	
Conclusions/Implications	Community issues were the barriers in this group of parents/children and not the family rejecting the idea of physical activity. The urban areas have safety/traffic issues and the rural areas have access issues.	Schools are an important venue for green space and activities. This will improve mental health and reduce stress in children while in school and at home.
Strengths/Limitations	Limitations: Small sample size from 5 different communities. May not be a representative sample.	The data collected was heterogenous in their measurements. Specific elements are needed to measure the effect of green spaces such as biomarkers, clinical data such as BP, HR, temperature. Time spent out doors and behavior changes is also an element of measurement.
Funding Source	Colorado Health Foundation.	No funding issued due to literature review.
Comments	This is a good and important component of health and wellness and if our youth cannot exercise, they are missing an important component of health r/t health status. Community issue.	There are inequities associate with the placement of green spaces in communities. Those with higher incomes (tax base?) have better and safer green spaces for the children. Lower income areas have less green space, it may be unacceptable for safety reasons and they may be harder to access (traffic). Schools are the places where children can have a safe outdoor experience. School environments are associated with income as well.

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Article/Journal	Laraia (2013). Food Insecurity and Chronic Diseases. *Advances in Nutrition*. 4(2): 203-212.	
Author/Year	Barabara Laraia. 2013.	
Database/Keywords	Key Words: Food Insecurity; and Chronic Diseases; or Diet	
Research Design	Cross-sectional Analysis	
Level of Evidence	Level 1: Several different studies including the NHANES study III, and observational studies.	
Study Aim/Purpose	To study the impact of food insecurity on the development of chronic diseases including weight gain especially among women. It also looked at the stress response due to food insecurity of critical developmental periods.	
Population/Sample size Criteria/Power	The paper was a review of the relationship between food insecurity and chronic diseases and to postulate a conceptual framework.	
Methods/Study Appraisal Synthesis Methods	Literature review and a mini symposium.	
Study tool/instrument validity/reliability	Review and framework	
Primary Outcome Measures/Results	The literature strongly suggests an association between food insecurity, weight gain, chronic diseases esp. among women. Diabetes is poorly controlled as well. Lower fruits and vegetables associated with food insecurity.	
Conclusions/Implications	Food insecurity is a "social ill with clear health consequences". Suggestive of food insecurity in pregnancy and childhood may result in development of chronic diseases.	
Strengths/Limitations	The cross-sectional study design is not sufficient to identify a causal direction. Longitudinal studies would be ideal. Great study to lay groundwork for future research on mediation analysis, effect of intensity, duration and level of food insecurity on the life cycle. Supports animal studies r/t stress and weight gain.	
Funding Source	Research grants (partial) from NIH Heart Lung, and Blood Institute.	
Comments	This is a good summary review of the effects that researchers have found on episodic food insecurity in families and individuals r/t chronic diseases including	

	diabetes control, weight gain, metabolic syndrome and the physiologic relationship to stress responses.	

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Article/Journal	The consequences of migration to the United States for short-term changes in the health of Mexican immigrants. Demography. 51(4): 1159-1173.	Cultural responses to health among Mexican American women and their families. Family and Community Health 30(7).
Author/Year	Goldman, Pebley, A.R., Creighton, M.J., Turuel, G.M., Rubalcava, L.N., Chung, C. (2014).	Padilla, Y., Villalobos, G. (2007)
Database/Keywords	Cinahl, Medline: health status: self-related health: selection: Mexico	Cinahl/ cultural response: health: Hispanics:
Research Design	longitudinal design	Empirical research
Level of Evidence	Level 1: Two waves of Mexican Family Life Survey	Level 1: Based on modeling of empirical research
Study Aim/Purpose	To study the consequences of Mexico-US migration for Mexican's health.	Health promotion integrating culturally safe practices.
Population/Sample size Criteria/Power	Large scale-8,440 households (19,132 respondents)	The Mexican community at large
Methods/Study Appraisal Synthesis Methods	Migrant status, age and sex, perceived health changes over year prior to immigration.	Modeling based empirical research re: Hispanic culture care.
Primary Outcome Measures/Results	Current migrants are more likely to have recent health changes than earlier migrants. Both decline and improvements noted.	Application of culturally competent care will produce a positive outcome in health status among Mexican women n the US.
Conclusions/Implications	There were changes in health status that recent migrants experienced but it is unclear what the mental and physical changes are.	Go through community channels to outreach with language and though the community leaders as in churches, community centers, and health clinics.
Strengths/Limitations	More data and populations are needed to discern the data and outcomes.	Positive use of transcultural theory and HPM within community context. Overview is Parse's theory of the human client as the community.
Funding Source	Eunice Kennedy Shriver National Institute of Child Health and Human Development.	No funding
Comments	Great application of study and more medical personnel needed at borders.	Great application of all three of my theories in direct application to Mexican community.

Article/Journal	The importance of ethnic food stores in identifying food deserts: A case study of Huntsville, Alabama. *Journal of Food Distribution 49 (1).*	New humanbecoming conceptualizations and the humanbecoming community model: Expansions with sciencing and living the art. *Nursing Science Quarterly* 25(1) 44-52.
Author/Year	Bukenya, J.O. (2018)	Parse, R.R. (2012)
Database/Keywords	Cinahl/ Ethnic food stores, food availability, food desert, West Huntsville Neighborhood	Cinahl / becoming invisible becoming of the emerging now: emerging now: humanbecoming community model: living experiences: Parse: true presence
Research Design	Field Questionaire	Applied theory
Level of Evidence	Level I: Survey and data based	Level I: situational
Study Aim/Purpose	To see if ethnic stores in food desert neighborhoods provide healthy food options not obtainable from supermarkets (no presence-food deserts).	Application of humanbecoming theory to communities
Population/Sample size Criteria/Power	N=22 retail stores	Nine countries
Methods/Study Appraisal Synthesis Methods	Data from UDA and population surveys. Survey of small stores and food options.	Conceptual and inferred
Primary Outcome Measures/Results	Small ethnic stores may provide healthy food options that are lacking from poor access to large stores	Translinguistic community of artists and specialty groups
Conclusions/Implications	More data is needed to see if the ethnic stores provide adequate sources of healthy food options.	Direct application of Parse's theory in community arts groups through history and present
Strengths/Limitations	Good start to a complex question.	Excellent application of theory to explain community oneness
Funding Source	USDA/NIFA, Alabama A&M.	No funding
Comments	There are outstanding questions here such as family size, biometric data on family members especially children	Very good perspective of explanation identity, of groups of artists present and on a historical level with humanbecoming model.

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Article/Journal	Journal of School Health 87(1). School Wellness Programs: Magnitude and Distribution in New York City Public Schools.	American Journal of Preventative Medicine 51(6) 916-925. Community Organizing for a Healthier Communities: Environmental and Policy Outcomes of a National Initiative.
Author/Year	Stiefel, L., Elbel, B., Prescott, M.P., Aneja, S., & Schwatrz, A.E. 2017	Subica, A.M., Grills, C.T., Villanueva, S., Douglas, J. (2016)
Database/Keywords	Keywords: School health policy; nutrition and diet; school health program planning; school wellness programs.	Policy changes in community-organized group interventions in underserved communities were measured for their outcomes-interviews conducted. These were health promotion programs.
Research Design	Used all of NYC public schools to gather info. On school wellness programs gathered from 1700 public schools. The info was put into three categories of programs.	21 grantees were funded in two cohorts. > 900 community-trusted organizations applied.
Level of Evidence	Level 1 from a policy perspective in planning wellness programs.	Level 1 from the perspective of the effectiveness of community organizing and grassroots efforts to improve health outcomes in communities.
Study Aim/Purpose	The aim was to see how many programs exist in the NYC public school system, their distribution, kinds of students served. What category do the programs fit into? Based on three.	To evaluate the best community health promotion programs in underserved communities. Two PhD researchers evaluated the applications, drew themes, derived categories from themes and coded policy wins into the categories.
Population/Sample size Criteria/Power	1700 schools were analyzed fir the existence of wellness programs. The NYCDOE databases were analyzed for info in 2012-2013.	This was based on the Robert Wood Johnson Foundation for Communities Creating Healthy Environments initiative.
Methods/Study Appraisal Synthesis Methods	Programs identified were categorized into 1. Nutrition education and activity 2. Comprehensive wellness 3. Nutrition education and comprehensive wellness.	21 community-based organizations and tribal nations (if they were a grantee) conducted a 3-year study. These were selected based on the community-based interventions to increase nutritional access and safe recreational areas for children.
Study tool/instrument validity/reliability	Descriptive statistics, mean, standard deviation, minimum and maximum on location, grades served, student and teacher characteristics for all NYC public schools.	The policy wins/grantees were measured from 2009-2014 with semi-structured interviews. These were conducted quarterly and 6-mos post-grant.
Primary Outcome Measures/Results	244 out of 1463 schools offer no program while 166 schools have 5 or more programs. High schools	The 21 grantees achieved 72 policy wins across 6 domains: 2-increased children's healthy food access and safe recreation; 4-

	disproportionately have no programs. Higher amounts of nutrition programs in schools with higher blacks and Hispanics. But few differences in ethnic variation. Manhattan schools more likely to have programs than Queens.	addressed obesity by health care promotion; clean environments were achieved; affordable housing improved; anti-discrimination and crime free neighborhoods achieved.
Conclusions/Implications	16% of schools had no programs, 12% of schools had 5+ programs. They are not distributed according to student's health needs such as obesity or fitness.	The CCHE initiative was effective in leading grassroots health promotions in underserved communities through health promotions. These initiatives helped to modify the structural inequities associated with childhood obesity. Community empowerment through grassroots programs in minority communities (communities of color).
Strengths/Limitations	Only one large school district was analyzed. Also, there may be more programs that were not identified in the system. Also, because a program exists does not mean it is effective. The entire programs were not evaluated.	Limitations: This was first study of its kind. The framework for evaluation was new. Some policy wins which were outside of the reported RWJF-approved grant targets were not included. Long-term effects on childhood obesity rates and BMI were not measured because of the long-term nature of this kind of study result.
Funding Source	No funding sources mentioned. Exempt from IRB.	Robert Wood Johnson Foundation. Many volunteers.
Comments	Good overview of wellness program existence in NYC schools and may or may not be r/t other major school districts but is a good example of a city-wide survey of school programs.	Really good information using the CCHE initiative for community-specific, citizen-led, grassroots health promotion to modify health inequities in r/t childhood obesity.

STUDENT NAME: Sheila Flynn Robbins Systematic Review Evidence Table Format [adapted with permission from Thompson, C. (2011). Evidence table format for a systematic review. In J. Houser & K. S. Oman (Eds.), Evidence-based practice: An implementation guide for healthcare organizations (p. 155). Sudbury, MA: Jones and Bartlett.]

Appendix IV: Measurement Tool/Instrument

Nutrition Literacy Assessment Instrument (NLit), Heather Gibbs, PhD University of Kansas (2019)

Nutrition Literacy Assessment Instrument (NLit)

Subject Code:_____ Time begin: _____ Time end: _____

This tool will help the research team get an idea of the nutrition information you already know and what may be new.

Please continue to the next page

Nutrition and Health
Directions: Please read the text below and answer the questions that follow.

Eating a healthy diet and staying fit are key factors to good health and quality of life. A healthy diet helps to prevent, delay, or improve chronic diseases. Some of these diseases include heart disease, high blood pressure, type 2 diabetes, and cancer. A healthy diet also helps people achieve a healthy weight.

A healthy diet is high in nutrient-dense foods, such as fruits, vegetables, and whole grains. A healthy diet is also low in energy-dense foods, refined grains, and added sugars. While these foods can provide energy, too much energy can lead to weight gain and chronic disease.

In order to follow a healthy diet, eat more:

- • Nutrient-dense foods: Fruits and vegetables are examples of nutrient-dense foods. Plant foods are nutrient-dense because they provide many vitamins, minerals, and other needed nutrients. At the same time, they are low in calories. Eating more of these foods may improve weight control and decrease disease risk.

- • Whole grains: Foods made from the entire grain seeds of wheat, rice, oats or barley are known as whole grains. Whole grain foods are nutrient-dense, and may improve weight control and decrease disease risk.
- • Lean proteins: Foods such as chicken or turkey (skin removed), low fat dairy, lean meat, dried beans and peas, and fish are also nutrient-dense foods when prepared with few added calories.

  In order to follow a healthy diet, eat less:

- • Energy-dense foods: Calories found in food supply energy to the body. Some foods, such as chips, soda, fruit juices, and desserts are high in calories and low in helpful nutrients. These foods are known as energy-dense foods. Taking in too many of these foods can lead to weight gain and may increase disease risk.
- • Refined grains: These foods are made from grains that lack a healthy part of the grain. Some examples include white bread and saltine crackers. Refined grains are low in helpful nutrients, and too many can lead to weight gain.
- • Saturated fat and cholesterol are nutrients mostly found in animal-based foods like meat and dairy products. These nutrients may increase the body's level of cholesterol in the blood, a condition which can reduce blood flow to the heart.
- • Sodium is found in table salt and many shelf-stable foods. Taking in less sodium may decrease blood pressure. High blood pressure is harmful because it makes the heart work harder.
- • Added sugars are found in foods that have high sugar contents and have few good nu-trients, foods such as soda, desserts, and candy. Taking in too many of these foods can lead to weight gain and may cause high blood sugar for those who have diabetes.

Please go to the next page to answer questions about this text.

Nutrition and Health, p. 2
Directions: Choose the best answer for the questions below. You may go back to

the text on the previous page to choose your answers.

1. Foods such as _____ should be included often in a healthy diet. A. red meat

B. butter
C. whole grains D. refined grains

2. An example of an energy-dense food is _____. A. ice cream

B. air-popped popcorn C. an orange
D. raw carrot sticks

3. Nutrient dense foods, such as _____ should be consumed most often.

A. regular soda B. French fries C. an orange
D. apple juice

4. Broccoli is one example of a food that is _____-dense. A. energy

B. protein C. nutrient D. calorie

5. Which meal is the most nutrient-dense?
A. 3 oz. hamburger on wheat bun, 20 potato chips, 8 oz. lowfat milk
B. 1 cup of spaghetti with meat sauce, 1 slice garlic bread, 8 oz. lowfat milk C. 3 oz. skinless chicken, 1 cup steamed green beans, 8 oz. lowfat milk
D. 4 oz. pork chop, 1/2 cup steamed white rice, 8 oz. lowfat milk

6. An example of an energy-dense beverage is _____. A. Diet soda

B. Lemonade
C. Black coffee
D. Unsweetened tea

Nutrition and Health, p. 3

7. Which of the following foods is most likely to be highest in sodium? A. canned tomato soup

B. frozen corn
C. fresh squeezed orange juice D. strawberries

Energy Sources in Food: These questions concern carbohydrate, protein and fat, the nutrients that supply energy to the body.

Directions: Use what you know about nutrition to answer the following questions.

1. The calories in foods like olive oil and butter come from their high _____ content.

A. vitamin E
B. carbohydrate C. protein
D. fat

2. The _____ found in fresh-squeezed orange juice is a type of carbohydrate.

A. sugar B. calcium C. starch D. folate

4. Which group of foods provides the most protein? A. bread, rice, noodles

B. banana, applesauce, broccoli
C. pork chop, egg, cheese
D. peanut butter, olive oil, salad dressing

5. Which group of foods provides the most fat? A. rice, corn tortilla, saltine crackers
B. potato, pear, milk
C. carrots, avocado, yogurt

D. mayonnaise, margarine, almonds

6. If your doctor asked you to eat less fat, which food should you eat less often?
A. black beans

B. regular salad dressing C. potatoes
D. bread

7. Olive oil is more healthful than margarine because: A. it is natural.

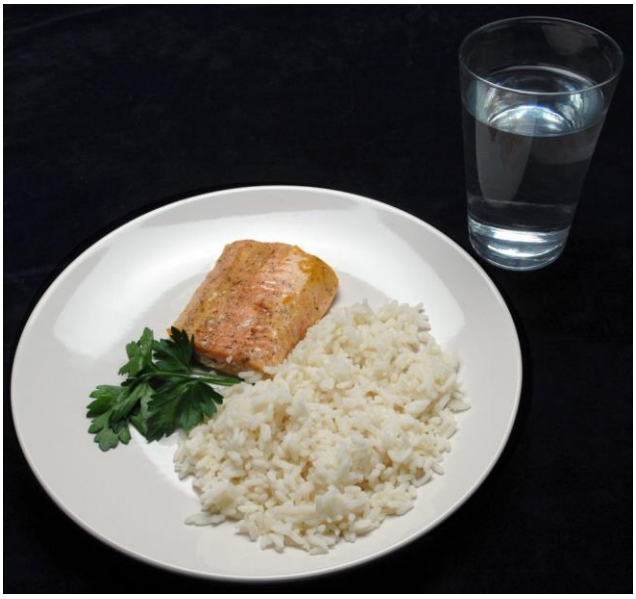
B. it is lower in fat.
C. it is lower in calories.
D. it has more healthful types of fat.

Household Food Measurement

Sometimes we eat food in the right amounts as advised by nutrition experts and sometimes we choose smaller or larger portions than might be best to achieve a healthy diet. For each food in question, choose what you think is the right portion size. This portion may or may not be the amount you usually eat. The portion amounts given in the question are also shown in pictures.

1. Pictured at left is a glass that contains 8 (eight) ounces of milk. Is this:

A. more than one (1) portion?
B. less than one (1) portion?
C. about right for one (1) portion?



2. Pictured at right is 1 (one) cup of rice. Is this:

A. more than one (1) portion?
B. less than one (1) portion?
C. about right for one (1) portion?

3. Pictured at left is one (1) cup of straw- berries. Is this:

A. more than one (1) portion?
B. less than one (1) portion?
C. about right for one (1) portion?

Household Food Measurement, p. 2

5. Pictured at right is 1/2 (one-half) cup of black beans. Is this:

A. more than one (1) portion?
B. less than one (1) portion?
C. about right for one (1) portion?

4. The spaghetti and meat sauce pictured at left includes two (2) cups of cooked pasta and 1 cup of meat sauce. Two cups of cooked pasta is:

A. more than one (1) portion?
B. less than one (1) portion?
C. about right for one (1) portion?

3 ounces 5 ounces 8 ounces

6. Using the photos above, choose the right portion for a hamburger patty:
A. 3 ounces
B. 5 ounces
C. 8 ounces

Food Label and Numeracy

This Nutrition Facts Panel at right is taken from the back of a container of macaroni and cheese.

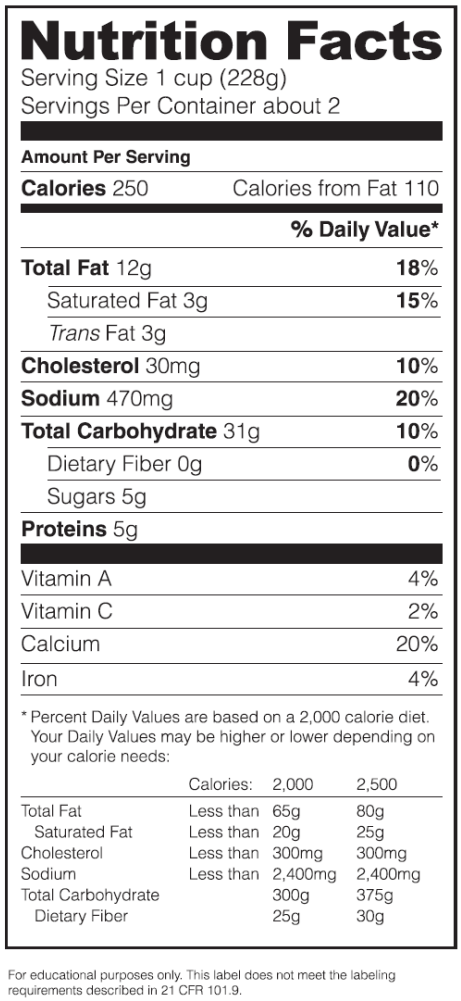
1. How many calories will you eat if you eat the whole container?

A. 250 calories B. 500 calories C. 700 calories D. 750 calories

2. If you are limiting your total fat intake to 65 grams per day, and you eat one (1)cup of macaroni and cheese, what is the highest amount of total fat you can eat from other food sources?

A. 33 grams B. 47 grams C. 53 grams D. 57 grams

From a package of Macaroni and Cheese



Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container about 2

Amount Per Serving

Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	**18**%
Saturated Fat 3g	**15**%
Trans Fat 3g	
Cholesterol 30mg	**10**%
Sodium 470mg	**20**%
Total Carbohydrate 31g	**10**%
Dietary Fiber 0g	**0**%
Sugars 5g	
Proteins 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

For educational purposes only. This label does not meet the labeling requirements described in 21 CFR 101.9.

3. How many grams of total carbohydrate would you eat in 2 cups of macaroni and cheese?

A. B. C. D.

4. If you eat?

A. B. C. D.

31 grams 45 grams 62 grams 75 grams

eat 1/2 cup of this macaroni and cheese, how many grams of total fat would you

2 grams 4 grams 6 grams 8 grams

Food Label and Numeracy, p. 2

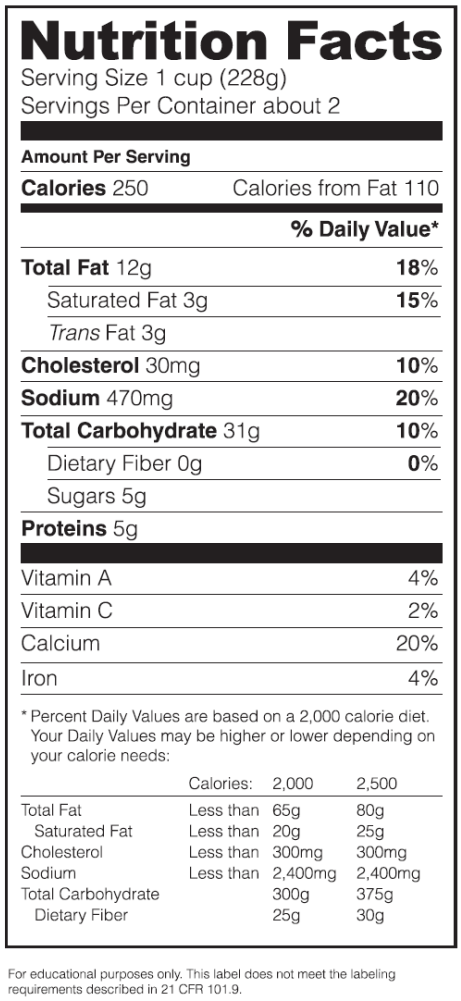
From a package of Macaroni and Cheese

5. If you are advised to eat 45 grams of carbohydrate per meal, and eat 1 serving of maca- roni and cheese, how many grams of total carbohydrate should you eat from another food at the same meal?

A. 9 grams B. 10 grams C. 14 grams D. 20 grams

6. If your doctor has advised you to limit your total fat intake to 60 grams per day, what percentage of your day's intake have you eaten in one serving of this macaroni and cheese?

1. 10%
2. 15%
3. 18%
4. 20%



Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container about 2

Amount Per Serving	
Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	**18**%
Saturated Fat 3g	**15**%
Trans Fat 3g	
Cholesterol 30mg	**10**%
Sodium 470mg	**20**%
Total Carbohydrate 31g	**10**%
Dietary Fiber 0g	**0**%
Sugars 5g	
Proteins 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

For educational purposes only. This label does not meet the labeling requirements described in 21 CFR 101.9.

Food groups Code:_____

This is a list of foods. Using the chart below, write the name of each food in the food group in which it belongs according to its nutrition value. Example: bread (see below)

bread apple noodles cheese

flour tortilla lemonade pork chop
carrots
butter

Grains	Vegetables	Fruits	Protein	Dairy	Fats & Oils	Added Sugars
bread						

Consumer Skills

Directions: Choose the best answer for the questions that follow.
1. If calories are equal for one serving of each food, which provides the most healthful nutrients overall?

A. Applesauce with no sugar added
B. Apple
C. Applesauce with no sugar added is equal to an apple in nutrition.

Apple

Applesauce with no sugar added

2. If Calories are equal for one serving of each food, which food would make the most nutritious snack?

A. fruit snacks made with real fruit
B. raisins
C. Fruit snacks made with real fruit are equal to raisins in nutrition.

Fruit snacks made with real fruit Raisins

Consumer Skills p.2
Directions: Choose the best answer for the questions that follow.

3. If portions are equal, which meat is lower in fat content?

A. Beef Strip Steak
B. Beef Sirloin Steak
C. Beef strip steak and beef sirloin steak are equal in fat content.

Beef Strip Steak

Beef Sirloin Steak

4. Which beverage provides more calories per 8 (eight) ounces (1 fluid cup)?

A. Fat-free milk
B. 100% apple juice
C. Fat-free milk and 100% apple juice are equal in calories.

Fat-free milk 100% apple juice

Consumer Skills p. 3

5. Which green bean option is lowest in sodium content?

A. canned green beans
B. frozen green beans
C. Canned green beans and frozen green beans are equal in sodium content

Canned green beans

Frozen green beans

Consumer Skills, p. 4

6. Which type of salad greens provides the most nutrition?

A. Iceberg lettuce
B. Kale
C. Iceberg lettuce and kale are equal in nutrition

Iceberg lettuce

Kale

7. Which section on a food label provides the best information about sugar content?

A. Nutrition Facts Panel
B. Package states “No sugar added”
C. The nutrition facts panel and the package stating “no sugar added” are equal

sources of information

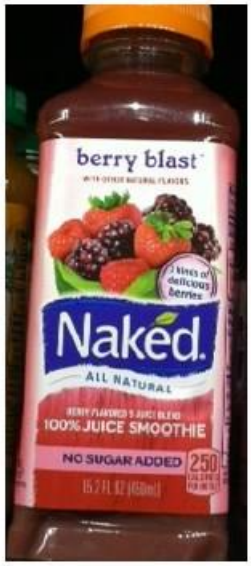
Nutrition Facts Panel

Package states “No sugar added”

Consumer Skills, p. 5

8. If calories are equal, which food provides the best nutrition?

A. Blueberries
B. Berry juice
C. Blueberries and berry juice are equal in nutrition.



Blueberries

9. Which section on a food label provides the best information for choosing a whole grain food?

A. Package states “Whole Grain”
B. Ingredients list
C. The package statement “whole grain” and ingredients list are equal sources of nutrition information.

Berry juice

Package states “Whole Grain”

STOP HERE. Please turn this instrument into the research team.

Appendix V: Full Board Application

REGIS UNIVERSITY
REGIS.EDU

Expedited/Full-Board Application Form

Tip: Prior to submission, go to the IRB page on Regis.edu for IRBNet training guides, sample documents, and other information helpful to your research project.

Part 1: Administrative Information (4 Questions)

1.1 Principal Investigator (PI) Contact Information

Project Title	Enter Title
Principal Investigator Name	**Sheila Flynn Towson**
Principal Investigator Phone	**847 970 8076**
Principal Investigator Email	**Srobbins003@regis.edu**
Select PI Status	Student
Select PI Area	Rueckert-Hartman College for Health Professions
Projected Start Date of Study	9/11/2019
Projected End Date of Study	1/11/2020

1.2 Co-PI's, faculty advisors, and members of the research team (if applicable)

Co-PI Name	Co-PI Email
Faculty advisor name or other co-investigators	**Dr. Lora Claywell, PHD, RN**
Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.

1.3 Funding

Is this research being funded by an external funding agency outside Regis?

☐ Yes ☒ No

1.4 Review by Additional IRB's

Has another IRB approved or do you anticipate a need to send your project to another IRB in addition to Regis University's IRB?

☐ Yes ☒ No ****If yes, please contact IRB@Regis.edu for further instructions. You may not need to complete the remainder of the form. ****

Part 2: Self-Assessment

The following are the research categories eligible for expedited or full-board review/approval (OHRP Categories of Research & 63 FR 60364-60367).

Please **check the box** next to the research category under which you are requesting expedited review.

1. I am conducting a clinical study of a drug/medical device under condition (a) or (b).
   ☐ (a) Research on drugs for which an investigational new drug application (21 CFR Part 312) is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review.)
   a. ☐ Research on medical devices for which (i) an investigational device exemption application (21 CFR Part 812) is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.
2. I am collecting blood samples by finger stick, heel stick, ear stick, or venipuncture as follows:
   a. ☐ (a) from healthy, non-pregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or
   b. ☐ from other adults and children, considering the age, weight, and health of the subjects, the collection procedure, the amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50 ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.
3. ☐ I am conducting prospective collection of biological specimens for research purposes by noninvasive means.

   Examples: (a) hair and nail clippings in a non-disfiguring manner; (b) deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction; (c) permanent teeth if routine patient care indicates a need for extraction; (d) excreta and external secretions (including sweat); (e) uncannulated saliva collected either in an unstimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue; (f) placenta removed at delivery; (g) amniotic fluid obtained at the time of rupture of the membrane prior to or during labor; (h) supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine

prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques; (i) mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings; (j) sputum collected after saline mist nebulization.

4. ☐ I am collecting data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. **Note:** Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications.)

   Examples: (a) physical sensors that are applied either to the surface of the body or at a distance and do not involve input of significant amounts of energy into the subject or an invasion of the subject's privacy; (b) weighing or testing sensory acuity; (c) magnetic resonance imaging; (d) electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, electroretinography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography; (e) moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual

5. ☐ My research involves materials (data, documents, records, or specimens) that have been collected, or will be collected solely for non-research purposes (such as medical treatment or diagnosis). (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(4). This listing refers only to research that is not exempt.)

6. ☐ I am collecting data from voice, video, digital, or image recordings made for research purposes.

7. ☐ I am conducting research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

8. ☐ This is a continuing review of research previously approved by the convened IRB as follows:
   a. ☐where (i) the research is permanently closed to the enrollment of new subjects; (ii) all subjects have completed all research-related interventions; and (iii) the research remains active only for long-term follow-up of subjects; or
   b. ☐where no subjects have been enrolled and no additional risks have been identified; or
   c. ☐where the remaining research activities are limited to data analysis.

9. ☐This is a continuing review of research, not conducted under an investigational new drug application or investigational device exemption where categories two (2) through eight (8) do not apply but the IRB has determined and documented at a convened meeting that the research involves no greater than minimal risk and no additional risks have been identified.

Part 3: Study Design, Methods, and Procedures (7 Questions)

3.1 Project overview

Provide a lay summary of the study. Include the study purpose and the research questions.

To assess the nutrition health literacy of parents of school-age children from two sites; a school population and a community site with parents of school-age children.

3.2 Justification for an expedited study

Provide a short statement to indicate why this is an expedited study.

Parents are not a vulnerable population and the study is an attempt to assess and improve their nutrition health literacy through a pre- and post-education session, via a survey.

3.3 Contributions to field

Briefly describe how the project will advance knowledge in this field, and/or improve understanding of the topic being studied.

The goal is to improve the quality of parent's nutrition health literacy so that they will improve the nutritional quality of the children's diets. This goal has been identified by the World Health Organization and the Centers for Disease Control and Prevention's Healthy People 2020 goals.

3.4 Data collection method

Select **all** methods of data collection that will be used in this study. Then, describe how implemented in the space provided.

☐ In-person interviews
☐ Focus group
☐ Telephone survey
☒ Paper or Internet survey (including online and email)
☐ Other communication/electronic devices (e.g., cell phones, texting devices, etc.)
☐ Social Networking sites
☐ Observation
☐ Experimental measures
☐ Clinical measures
☐ Audio/Video recording
☐ Cognitive or behavioral measures, including daily diaries

☐ Anthropometric measures (e.g., height, weight, etc.)
☐ Self-health monitoring (e.g., pedometers)
☐ Transcription software
☐ Other (Please describe below)

3.5 Methodology/Protocol

Describe the tasks that participants will be asked to perform for each phase of the study. Provide an estimate of the time commitment from each participant.

There will be an hour and a half survey administration and education session, followed by the survey re-administration. The parents/caregivers are the population participants that will be surveyed. There will be a follow-up within three months to the participants who opt-in to be re-assessed via the survey re-administered to determine if knowledge has been retained.

3.6 Citations/Reference List

Please include a reference list/bibliography for sources cited.

Gibbs, H. D., Kennett, A. R., Kerling, E. H., Yu, Q., Gajewski, B., Ptomey, L. T., & Sullivan, D.
K. (2016). Assessing the Nutrition Literacy of Parents and Its Relationship with Child Diet Quality. *Journal of nutrition education and behavior*, *48*(7), 505–509.e1. doi:10.1016/j.jneb.2016.04.006

Gibbs HD, Owens S, Carmargo J, Gajewski B, Cupertino AP (2018). Measuring Nutrition Literacy in Spanish-Speaking Latinos. Journal of Immigrant and Minority Health. 20(6):1508-1515. DOI: 10.1007/s10903-017-0678-1. PMID: 29164448).

Healthy People, 2020 (2019). Vision, Mission and Overarching Goals. Retrieved from the webHTTP://www.healthypeople.gov/HP2020/Commnets/SubjectFocus

Luesse, H.P., Paul, R., Gray, H.L., Koch, P., Contendo,I., & Marsick (2018). Challenges and facilitators to promoting s healthy food environment and communicating effectively with parents to improve food behaviors of school children. Maternal Child Health Journal. 7:958-
967. Doi:10.1007/s10995-018-2472-7.

U.S. Department of Health and Human Services, Office of Disease Prevention and Health

3.7 Study location

Where will the research activities take place? [You may be required to obtain a site approval letter or permissions to conduct your research. A sample template is available on the CSRE web page.] **Select ALL** appropriate boxes and describe in the space provided below.

☐ Regis University campus
☐ Non--Regis location
☐ Other organization/institution
☒ Other off-campus location
☐ International location (Consult International Compilation of Human Research Standards for specific regulations.

The study will take place at two locations; The North Chicago Public Library and the Winnetka Community House.

Part 4: Participants (8 Questions)

4.1 Number

Indicate the number of participants you plan to enroll.

100-150 depending on who is able to go to event.

4.2 Age

Specify the age range of the participants.

Estimated to be 25-65

4.3 Participant Description

Select which types of participants will be included in your study. Then, describe in the additional space provided.

☐ Regis students
☒ Adult volunteers (over 18 years of age)
☐ Vulnerable population group
- ☐ Pregnant women
- ☐ Economically disadvantaged
- ☐ Cognitively disadvantaged
- ☐ Prisoner/incarcerated individual

☐ Children under 18

☐ Other (please specify)

4.4 Participant Description Inclusion Criteria

Describe the participant criteria for inclusion in the study.

The participants must be the parents or caregivers of school age children in the locations being identified.

4.5 Participant Description Exclusion Criteria

Describe the participant criteria for exclusion from the study.

Those who are not parents or caregivers of school-age children.

4.6 Participant Termination

Describe the circumstances in which the participant's participation will be terminated by the investigator.

They must not copy other's surveys.

4.7. Participant Recruitment Tools

Select **all** tools you intend to use for recruiting participants. Then, describe recruitment method in the space provided.

☒ Flyers

☒ Email

☐ Online advertisements

☐ Internet social media or online networking

☐ TV, radio, print ads

☐ Regis participant pool

☐ Face-to-face/word of mouth

☐ Presentations at meetings

☒ Other (please specify)

These events will be put on the academic/community calendars at the two sites

4.8 Participant Compensation

Will participants be compensated for participation?

☐ Yes xNo

If yes, please describe how participants will be compensated. Include information about: how participant anonymity will be preserved, how compensation will be given to participants, and when compensation will be provided.

Part 5: Risks and Benefits (3 Questions)

5.1 Risks

Address any physical, emotional, psychological, financial, academic, employability, and/or reputation risks. This may include immediate or future risks.

No risks will be taken through this study. Participation is voluntary.

5.2 Risk Minimization

Describe any efforts to minimize risks to participants.

Participants will voluntarily attend the sessions. There is no obligation to attend/participate in the events.

5.3 Benefits

Detail any benefits which the participants may receive.

The attainment of nutritional health knowledge that can be applied to their daily lives. This can be a quality improvement study to improve and assist in maintaining/attaining positive short-and long-term benefits.

Part 6: Privacy and Confidentiality (4 Questions)

6.1 Access to Personal Identifiers

Will any member of the research team collect any of the personal identifiers listed below? Select **all** that apply.

☒ No member of the research team will have access to any personal identifiers
☐ Name
☐ Date of birth
☐ Mail or email address
☐ Phone or FAX number
☐ Social Security number
☐ Student identification number
☐ Medical records
☐ License, certificate, or vehicle ID
☐ IP address
☐ Biometric identifiers (e.g., fingerprint, DNA, face recognition, etc.)
☐ Photos/images/audio recording

☐ Signatures, handwriting samples
☐ Other unique identifier

6.2 Data Storage Location
How will the research data and/or specimens be stored?
Select **all** that apply. Then, describe the location by indicating which personnel have access to the data, the storage location, and other relevant information.
☒ Locked office
☐ Locked filing cabinet
☒ Restricted access to authorized study personnel
☐ Secure computer/laptop
☐ Individual ID plus password protection
☐ Encryption of digital data
☐ Destruction of source data immediately after data collection
☐ Audio and/or video recordings will be transcribed and then modified
☐ Audio, photos, and/or video recordings will be modified to eliminate the possibility that study participants can be identified
☐ Access rights are terminated when authorized study personnel leave the study
☐ Other (describe below)

6.3 Data Storage Length
Identify how long research records will be retained. (The Office of Human Research Protections requires records to be retained for three years following the conclusion of the study. If Protected Health Information is collected, records must be retained for six years.)
Three years after the conclusion of the study.

6.4 Data Protection
Select **all** choices below which indicate how the data will be protected against inappropriate use or disclosure. Then, describe in the space provided below.
☒ Individual ID plus password protection
☐ Encryption of digital data
☐ Destruction of source data immediately after data collection
☐ Audio and/or video recordings will be transcribed and then modified for anonymity
☐ Audio, photos, and/or video recordings will be modified for anonymity
☐ Permissions will be obtained for ecific use of photos, audio, and/or video recordings (e.g., educational, presentations, publications)
☐ Access rights are terminated when authorized study personnel leave the study
☐ Other (describe below)

Part 7: Conflict of Interest (2 Questions)

7.1 Financial Conflict of Interest Disclosure

Do any of the investigators, their spouses/significant other, or dependents have any personal financial interest or commitment with any company or entity that sponsors or supports this research?

☐ Yes ☒ No

If yes, provide a brief description of the conflict of interest.

7.2 Relationships with Participants

Do any of the investigators have a personal or professional relationship with the participants?

☐ Yes ☒ No

If yes, provide a brief description of the relationship and potential impact on the research.

Part 8: Adverse Event Reporting (1 question)

8.1 Adverse Events

I am aware of the requirement to **report serious adverse events (e.g., physical or psychological injury) to IRB@Regis.edu within 24 hours of occurrence** should anything happen during your project. **Adverse events, which are less serious in nature, must be reported within 72 hours of occurrence**. **An Adverse Event form must also be submitted to IRBNet.** If research is taking place on a Regis campus, a Campus Safety Incident Report must be filed with Campus Safety (safety@regis.edu) If you have questions, contact IRB@Regis.edu.

By checking the box below, investigator is attesting to awareness of this requirement.

☒ Yes

Part 9: CITI Training Addendum

Complete the CITI Training Addendum for each investigator, co-investigator, and faculty advisor. The addendum should be attached in IRBNet.

Appendix: Submission Checklist

☒ CITI completion report is included in submission (The CITI completion report will display which courses were taken and when those courses were taken)

☒ Application form has been proofed for spelling, grammar, readability, and track changes are removed

☒ New Protocol Reviewer Form has been consulted to see how IRB reviewers evaluate protocols

☒ Copies of all data instruments, materials, questionnaires, consent forms, recruitment materials, and other items that are going to be distributed to participants are included in submission

☐ Consent form is written at no higher than an 8th grade reading level as evaluated by the Flesch-Kincaid reading test

☒ Students: Make sure to share the project with your faculty research advisor

☒ Faculty Advisor: Faculty advisor should review and approve all student application materials including, but not limited to recruitment materials, application, survey questions, and consent forms.

Appendix IV: Letters of Support from Community Partners/Agencies

Community Partner Agencies Letters of Support

Forrestal Elementary School
District 187
North Chicago, Illinois 60044

September 1, 2019

To Regis University Institutional Review Board (IRB):

I am familiar with Sheila Flynn Towson's quality improvement project entitled Informed Parents, Healthy Children. I understand Forrestal Elementary School's 's involvement to be the advertisement of the event and handing out the fliers and putting the date in the calendar and sending an email blast to the parents of the in both English and Spanish. The actual event will take place at the North Chicago Public Library on September 11, 2019 for logistical reasons. Arrangements at the library have been made for a private room and technology.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research project is strictly voluntary and provides confidentiality of research data, as described in the proposal.

Therefore, as a representative of Forrestal Elementary School, I agree that Sheila Flynn Towson's research project may be conducted at our agency/institution.

Sincerely,

E-Signature

Inez Mitchell, Principal
Forrestal Elementary School
Imitchell@d187.org

Inez Mitchell, ***Forrestal Elementary Principal***
2833 Washington Street
Great Lakes IL 60088
847-689-6310

Winnetka Community House
Winnetka, Illinois
Letter of Agreement

August, 2019

To Regis University Institutional Review Board (IRB):

I am familiar with Sheila Flynn Towson's quality improvement entitled Informed Parents, Healthy Children. I understand Winnetka Community House's involvement to be the advertisement of the event on September 16, 2019 to the parents of school-age children who participate in events at the Winnetka Community House and having fliers available for the parents. A room will be provided at the Winnetka Community House. Sheila will provide the surveys and education session.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research project is strictly voluntary and provides confidentiality of research data, as described in the proposal.

Therefore, as a representative of The Winnetka Community House, I agree that Sheila Flynn Towson's research project may be conducted at our agency/institution.

Sincerely,
E-Signature
Mike Buscher, Winnetka Community House
mikeb@mywch.org

Appendix VII: IRB Approval Letter

IRB Letter of Approval

REGIS UNIVERSITY

REGIS.EDU

Institutional Review Board

DATE:	March 26, 2020
TO:	Sheila Towson
FROM:	Regis University Human Subjects IRB
PROJECT TITLE:	[1585135-1] Parental Nutrition Health Literacy
SUBMISSION TYPE:	Amendment/Modification
ACTION:	DETERMINATION OF NOT RESEARCH
DECISION DATE:	March 26, 2020

Thank you for your submission of Amendment/Modification materials for this project. The Regis University Human Subjects IRB has determined this project does not meet the definition of human subject research under the purview of the IRB according to federal regulations.

This quality improvement project may proceed as submitted.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact the Institutional Review Board at irb@regis.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Regis University Human Subjects IRB's records.