4-14-2019

Increasing Physical Activity in Hispanic Adults to Reduce Complications of Type 2 Diabetes

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Increasing Physical Activity in Hispanic Adults to Reduce Complications of Type 2 Diabetes

A Scholarly Project Presented to the Faculty of the School of Nursing
Boise State University

In partial fulfillment of the requirements
For the Degree of Doctor of Nursing Practice

By

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Abstract

Problem Description: Adults in the United States do not exercise sufficiently to meet the specifications outlined in the *2018 Physical Activity Guidelines* (U.S. Department of Health and Human Services, 2018). The Office of Disease Prevention and Health Promotion's (2018) Healthy People 2020 aims to eliminate health disparities and achieve health equity among all population groups in the United States. However, statistics from the U.S. Office of Minority Health (2014) indicate that Hispanics are twice as likely to be diagnosed with type 2 diabetes as non-Hispanic whites. According to a Centers for Disease Control and Prevention (CDC) report in 2015, Hispanics are disproportionately burdened with the complications associated with the disease and are 50% more likely to die from diabetes or liver disease than non-Hispanic whites.

Interventions: Educational information and health promotion measures need to be implemented among the Hispanic population to narrow this identified knowledge gap. Hispanics need to engage in leisure-time physical activity to decrease modifiable risk factors for diabetes, obesity, heart disease, hypertension, and depression (Arredondo et al., 2016). Literature review findings indicate Hispanics are difficult to recruit and retain in studies. They have a high level of trust in information provided by faith-based individuals and are very family centered (Acevedo et al., 2014). Five educational sessions were conducted over five weeks at two Catholic churches in collaboration with local Faith Community Nurses. The educational information was structured around the Hispanic core value of familism, stressing the importance of health as a responsibility toward the whole family and not just the individual. Each educational session assisted in increasing their knowledge of diabetes, obesity, healthy eating habits, and the health risks of sedentary behaviors.

Results: A total of sixteen (n=16) Hispanic adults attended at least one of the five educational sessions. Nine (56%; n=9) adults completed all five educational sessions, pre-and-post surveys, and tracked their physical activity for five weeks. At the conclusion of the five weeks, one hundred percent (100%; n=9) of the participants met the physical activity guidelines of 150 minutes per week of moderate-intensity physical activity as recommended by the 2018 Physical Activity Guidelines (HHS, 2018.) (Appendix DD).

Interpretation: Participants reported a high level of trust in the educational information provided and a sense of safety due to the involvement of the Faith Community Nurses. Participants expressed frustration at the lack of access to health care information presented in easy to understand terms, culturally relevant to their families and with consideration to their safety and need for privacy.

Conclusion: Hispanic adults will adopt leisure time physical activity when education occurs at their place of worship under the direction of Faith Community Nurses and presented within the framework of the cultural core value of familism.

Keywords: Hispanics, Physical Activity, Diabetes, Familism, Faith Nurses

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Problem Description

Adults in the United States do not exercise sufficiently to meet the specifications outlined in the *2018 Physical Activity Guidelines* (U.S. Department of Health and Human Services, 2018). This lack of physical activity contributes to high obesity and diabetes rates. As of 2017, 30.3 million people, or 9.4% of the U.S. population, had diabetes (Center for Disease Control, 2017a). Obesity is a public health epidemic, with 39.8% or 93.3 million of the U.S. adult population reported as obese for 2015–2016 (CDC, 2016). The Office of Disease Prevention and Health Promotion's (2018) Healthy People 2020 aims to eliminate health disparities and achieve health equity among all population groups in the United States. However, statistics from the U.S. Office of Minority Health (2014) indicate that Hispanics are twice as likely to be diagnosed with type 2 diabetes as non-Hispanic whites. According to a Centers for Disease Control and Prevention (CDC) report in 2015, Hispanics are disproportionately burdened with the complications associated with the disease and are 50% more likely to die from diabetes or liver disease than non-Hispanic whites. Educational information and health promotion measures need to be implemented among the Hispanic population to narrow this identified knowledge gap. Hispanics need to engage in leisure-time physical activity to decrease modifiable risk factors for diabetes, obesity, heart disease, hypertension, and depression (Arredondo et al., 2016).

Problem Background

According to the World Health Organization (2017), physical inactivity is a global public health problem. Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical inactivity has been identified as the fourth leading risk factor for global mortality; it causes an estimated 3.2 million deaths globally (World Health Organization, 2017). The *2018 Physical Activity Guidelines for Americans* (2018)

provide information about the importance of regular physical activity for reducing the risk of many adverse health outcomes. For substantial health benefits, adults should engage in at least 150 minutes per week of moderate-intensity physical activity, such as brisk walking or bicycling. Additional health benefits may result from more vigorous-intensity exercise or participation in both aerobic and muscle-strengthening activities.

Local Problem

According to the 2016 St. Luke's Community Health Assessment, approximately 35% of Idaho Hispanic adults report no leisure-time physical activity, compared to 21% of Idaho's non-Hispanic population (St. Luke's, 2016). Hispanics are Idaho's largest minority group, accounting for 12% of Idaho's population in 2015, compared with 8% in 2000 (Idaho Commission on Hispanic Affairs [ICHA], 2017; Idaho Health Behaviors, 2015).

Idaho has a large Hispanic population, mostly children and young adults from Mexico who are living in Ada and Canyon Counties, which has at least a 13.8% prevalence rate for diabetes. They are more likely to be obese (42.5%), to refrain from participating in any leisure-time activities (35%), and to die from complications of diabetes or liver disease (50%) (ICHA, 2017; CDC, 2015; CDC, 2017b).

Available Knowledge

A search strategy yielded 17 articles that met the inclusion criteria. Articles were excluded if they focused on populations younger than 18 years old, were not specific to Hispanic adults, or focused on weight loss interventions or obesity. Search terms included combinations of the following: exercise and Hispanic adult, Latinos and physical activity and barriers, physical inactivity and chronic disease, ethnicity and exercise, familism, sedentary and diabetes.

Databases used to conduct the search, included CINAHL, ERIC, PsychInfo, Science Direct, BioMed Central, MedlinePlus, and PubMed.

Results of the literature review are found in Appendix A, which demonstrates the individual synthesis of 17 selected studies based on relevance to the problem statement. Recurring themes emerged among the studies reviewed. Structured physical activity has several potential positive impacts on quality of life, it can (1) decrease the risk of falls, (2) improve isolation and reduce depression, (3) decrease cognitive decline, and (4) has the potential to reduce the increasing rates of Alzheimer's disease.

Rationale

Theoretical Model

The literature review provided significant evidence of the use of the transtheoretical model (TTM) in smoking cessation, gambling addiction, obesity, and nutrition and exercise programs (Blissmer et al., 2015; Kim, 2008). The transtheoretical model has three main constructs: the stages of change, self-efficacy, and decision balance (DiClemente & Prochaska, 1983). The stages of change are divided into five groups: Pre-contemplation, Contemplation, Preparation, Action, and Maintenance (Appendix B). The transtheoretical model's five stages of change consider an individual's previous behavior as well as behavior intention. The framework of the transtheoretical model aligned well with the Scholarly Project (SP) because the target population of Hispanic adults was at varying stages of change. Participants' responses to the International Physical Activity Questionnaire (IPAQ) (Crain et al., 2003) provided the information necessary to determine each individuals' stage. Once individuals were categorized into their respective stage, interventions were adjusted to meet the needs of each participant.

In addition, TTM's stages create groups of individuals within the same stage. Kim (2008) categorized the adults in the Pre-contemplative stage as not engaged in an exercise program and adults in the Contemplation stage as considering an exercise regime but not yet having initiated one. In the Preparation stage, adults may be exercising sometimes but not regularly, and adults in the Action stage may already exercise regularly.

The Logic Model (Appendix C) for the SP served as the framework for initial engagement of community partners and provided a visual representation of the strengths of the design (W. K. Kellogg Foundation, 2004). A second Logic Model (Appendix D) assisted in communicating and coordinating with community stakeholders. Planning within the framework of the logic model ensured each essential component of the project was fully addressed (Issel, 2014).

Specific Aims

The aim of the proposed project was to increase the physical activity of Hispanic adults in the Boise/Nampa area of Idaho to reduce type 2 diabetes complications. To achieve this goal, cultural, social, and economic barriers to physical activity among Hispanic adults were identified and interventions with support systems such as Faith Community Nurses (FCNs) were designed and presented to encourage engagement in physical activity. The Attitudinal Familism Scale (AFS) by Steidel and Contreras (2003) provided information related to the participants' values toward familism and assisted in promoting participation and retention (Appendix E). The items on the IPAQ (Crain et al., 2003) were culturally relevant, and participants were able to easily respond to the survey questions (Appendix F). The Likert scale used for evaluation of each educational session allowed for immediate feedback and provided a method for revision of the content (Appendix G).

Context

Population

Hispanics are the second-largest and fastest growing ethnic minority in the United States. In 2016, Idaho was the third-fastest growing state in the nation, behind Utah and Nevada. Hispanics are Idaho's largest minority group (ICHA, 2017). In 2015, Hispanics accounted for 12% of Idaho's population, compared with 8% in 2000 (U.S. Census Bureau, 2015).

The family is an important component of Hispanic culture. The term *Familism* (also referred to as *familialism* or *familismo*) is a core value of the Hispanic culture. Familism is defined as a set of attitudes regarding the family and the nature of relationships within the family (Pérez & Cruess, 2014). As a result, members are primarily responsible for supporting and enhancing the welfare of their kin, and thus not prioritizing the needs of self.

Local Care Environment

This SP was conducted in collaboration with Saint Alphonsus Regional Medical Center (SARMC) FCNs. Educational sessions were conducted at St. Mary's Catholic Church in Boise and St. Paul's Catholic Church in Nampa, Idaho. Both churches consist primarily of Hispanic families, have at least one FCN providing services to parish members, and conduct multiple services in Spanish. A memorandum of understanding (MOU) with Saint Alphonsus Regional Medical Center was completed (Appendix H).

A history of change is evident in the Community Health Needs Assessment (CHNA) conducted by Saint Alphonsus and St. Luke's. Both strive to fulfill a mission of equity, stability, and success for area residents (Saint Alphonsus, 2016). Other community stakeholders represented in both hospital's CHNA include the Boise Veterans Medical Center, Idaho Department of Health and Welfare, Idaho Office of Refugees, Community Council of Idaho,

Southwest District Health 3, Idaho Central Health District 4, Boise Rescue Mission, Garden City Community Clinic, and Terry Reilly Health Services.

Strengths and Weaknesses

Strengths of the SP include 1) a population design intended to be culturally relevant, 2) respect of each participants' limited sharing of information 3) designated time for social networking among the participants with flexibility in start and stop times, and 4) sessions held at the Catholic Church with FCNs known to the individuals. These design components are consistent with previous literature findings by Acevedo et al. (2014) Buono, et al., (2008) Jukowski, Kurlanska, & Ramos (2010) and Schwingel & Gálvez, (2016) on the importance of adapting information to meet the cultural and religious aspects of participants.

Weaknesses of the SP include potential participants not completing registration forms and being hesitant to request assistance. All documents were translated by a certified Idaho interpreter to meet 5th-grade reading level. However, at the first session it was evident the individuals either had literacy or vision limitations. The issue was immediately resolved when the DNP project leader announced the forms were going to be read out loud to ensure everyone was receiving the same information. The forms were then taken to a printer and re-formatted in a larger font for the remainder of the educational sessions. At each subsequent session, all documents were read out loud to individuals present.

Self-reporting physical activity can be problematic due to the potential for over or under reporting of goals (Prince et al., 2008). Using the IPAQ survey participants were asked to self-report physical activity both pre and post intervention. To mitigate the potential for over-reporting participants were also asked to track their actual minutes per day and type of activity

on a paper/pencil tool. Utilizing both methods allowed for comparison between estimated PA and actual PA engaged in at the end of the project period (Appendix AA).

Limited recruitment and retention of Hispanic participants was an additional weakness of the SP. Recruitment might have been improved had the DNP project leader spent months integrating into the Catholic faith community before the start of the recruitment phase. The thirty-day recruitment period of this SP was insufficient to establish the trust necessary among the Hispanic population. Despite the flexible framework participants were initially hesitant to discuss barriers to participation. Several individuals openly discussed trust issues, citing fear of legal exposure and fear of deportation. As questions were answered individuals either left and did not return, stayed and completed the registration forms or requested to stay but not complete the registration forms (Appendix I). The FCNs spent time separate from the group sessions with individuals who requested additional information or referrals to community services. Those services included counseling, pharmacy services, low-income health clinics, legal services, and support groups. Contributing to the limited recruitment was the time selected for the implementation phase. Recruitment occurred at the end of the school year (May and early June). Families reported scheduling conflicts due to travel plans as soon as the children completed the school year. Others reported an increase in work hours due to the summer season. These competing interests created difficulty in recruiting individuals.

Interventions

The logic model for this SP identifies the program inputs and resources needed. The short-term outcomes are outlined below. Long-term outcomes are identified in Appendix C.

1. 16 Hispanic adults completed a face-to-face interview and signed consents prior to attending any educational sessions.

2. 56% *(N=9)* of Hispanic participants *(n=16)* attended at least four of the five educational sessions.
3. 100% *(N=9)* of the final group, enrolled and registered Hispanic participants completed the Attitudinal Familism Scale.
4. 89% *(n=8)* of Hispanic participants reported improvement in physical activity (PA) levels after attending five educational sessions as measured by pre and post IPAQ scores.
5. 100% *(N=9)* of the enrolled Hispanic participants completed evaluations for each educational session attended and rated the intervention's helpfulness on a Likert-type scale of 1–5.
6. 78% *(N=9)* of Hispanic participants reported a decrease in sedentary time.
7. 100% of Hispanic participants were recruited through coordination with local Faith Community Nurses in the Treasure Valley.
8. 100% percent of funding needed was secured from private donations.
9. One community workgroup was formed with two community stakeholders already engaged in providing health services to the Hispanic population.

Participants were recruited through collaboration and coordination with FCNs at two local Catholic parishes (Outcomes 7, 9). The educational sessions (Appendix J) were developed by the DNP project leader utilizing input and feedback from the FCNs and other community stakeholders. Educational sessions were held over a five-week period in a church classroom reserved for each session. A colorful, laminated welcome sign written in both English and Spanish was placed on an easel in the hallway by the classroom. As anticipated each session began 30 - 45 minutes after the scheduled start time. Significant social interaction occurred at

the beginning of each session. The DNP project leader participated in all social conversations in Spanish and English to establish feelings of trust and security.

Registered individuals arrived and signed in on a clipboard. Individuals who attended, but were not registered were assisted with the registration process and completion of the AFS and IPAQ surveys during the socialization period (Outcomes 1, 2, 3). Individuals who desired to attend, but did not wish to complete any forms or surveys were equally welcomed.

At the conclusion of each of the educational sessions, participants rated the intervention helpfulness on a Likert-type scale of 1-5 (Outcome 5). Raffle tickets for an incentive giveaway were given to each participant who had remained for the entire 1-hour educational session. At the fifth and final educational session, a department store $25.00 gift card was given to the individual with the highest amount of physical activity for the month.

The primary focus of the educational sessions was to encourage participants to engage in leisure-time physical activity and increase their knowledge about diabetes, obesity, healthy eating habits, and the health risks of sedentary behaviors (Outcomes 4, 6). Engagement through storytelling is a cultural norm within the Hispanic community. Davila, Reifsnider, and Pecina (2011) conducted a study exploring the impact of Hepatitis C among Hispanic men and women. Group discussions were centered on a vignette designed about a Hispanic male, "Roberto," who was newly diagnosed with Hepatitis C. This structure provided a non-threatening environment for open discussions and an enhanced learning opportunity. The DNP project leader presented a vignette called "Mi Tia Paula" (My Aunt Paula), which was written specifically for this SP by the DNP leader (Appendix K). Each week, a letter from Aunt Paula was read in which "Aunt Paula" asked for advice on managing her out-of-control diabetes. Participation and engagement increased at each session when Tia Paula's letter was presented. Suggestions provided by the

participants demonstrated a good understanding of the educational information provided during each of the sessions.

Interventions and the Transtheoretical Model

Project interventions that promoted the physical activities were consistent with the stages of the transtheoretical model (TTM) (DiClemente & Prochaska, 1983). Participants who reported a history of no regular exercise (56%, *n=5*) on the general information form were categorized into the Pre-contemplative stage. Participants who completed the pre-IPAQ survey and reported some exercise (44%, *n=4*) were identified in the Contemplative or Preparation Stage. Participant's qualitative responses on the general information form and anecdotal information shared during the educational sessions provided additional information in determining the participants' TTM stage (Appendix L). As expected, the majority of participants admitted lack of awareness of the need for engaging in any leisure-time physical activity and did not have any thoughts to begin engaging in any PA, or were exercising on occasion, but not on a regular basis.

Timeline

Design and use of a timeline (Appendix M) provided the DNP project leader and community stakeholders with an organized framework of measurable goals and specific objectives. The timeline for this project began with assessment activities in fall 2016 and concluded with a post-project analysis in fall 2018, with dissemination in the spring of 2019. Meetings were held with the FCNs and material reviewed for each educational session in the spring of 2018. Feedback provided was integrated into the material. Recruitment occurred May 2018 at both Catholic churches. Educational sessions were held in late May and June 2018.

Measures

Data collection and methods corresponding to each of the outcomes are identified in the Logic Model and the Outcomes Evaluation Table (Appendix N). Evaluation approaches for this project were quantitative, qualitative, and participatory. Descriptive statistics were used for analysis of the collected data based on quality improvement methods.

Outcome 1 includes both quantitative and qualitative data collected during a face-to-face session with each participant. Attendance data was collected from sign-in forms for Outcome 2 to quantify the number of participants attending each session and the number of family or guests attending with them. Outcomes 3 and 4 involved collection of AFS and pre-IPAQ survey data. Each participant was asked to complete the Attitudinal Familism Scale (AFS) and the IPAQ during the interview session. Participants were informed of their right to refuse to provide any information they did not feel comfortable disclosing. The AFS (Steidel & Contreras, 2003) is an18-item scale used to measure Familism support, Familism Interconnectedness, Familial Honor, and Subjugation of self for family (the idea that one should sacrifice one's own needs for the family) (Appendix E). The AFS has a Cronbach's alpha of 0.83. Validity analyses with U.S. Latino populations have demonstrated that this scale negatively correlates with acculturative status.

The IPAQ is a seven-question instrument that has been used in studies on physical activity and the Hispanic population. The IPAQ measures physical activity rates in minutes per week in four activity categories: vigorous (heavy lifting, digging, aerobics or fast bicycling), moderate (carrying light loads, bicycling at a regular pace, or doubles tennis), low (walking for travel, recreation, sport, exercise or leisure), and sedentary (time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television). Reliability and validity for the

IPAQ were established in studies conducted in 12 countries and for patients with type 2 diabetes. The 12-country reliability and validity study conducted by Crain et al., (2003) indicated that the IPAQ questionnaires produced repeatable data with a Spearman's rho clustered around 0.8. Criterion validity had a median rho of 0.30, which was comparable to that of most other self-report validation studies.

Quantitative data for Outcome 5 was collected from each participant at the end of each educational session. Participants were asked to rate the helpfulness of the information presented at each educational session using a Likert-type scale of 1–5 (Appendix G). Use of the scale created a feedback loop between participants and the DNP leader, allowing for ongoing revisions and improvement of subsequent educational sessions.

Madhav, Sherchand, and Sherchan (2017) reported that sedentary activity is negatively related to TV screen-time. Data for Outcome 6 was collected from participants' responses to sedentary activity on the IPAQ and tracking calendars used by each participant (Appendix O).

The DNP project leader recruited 100% of the Hispanic participants through collaboration and coordination with two local FCNs (Outcome 7). Attendance at each educational session provided additional quantitative data related to Outcome 7.

Funding and in-kind contributions were tracked on an Excel spreadsheet (Outcome 8). Private funding was secured by the DNP project leader. Project expenses and revenues were tracked on a Three-year Budget Plan (Appendix P) and Statement of Operations (Appendix Q). No grant funding was secured for this SP due to conflicting timelines. However, future projects would benefit from utilizing grant searches and completing application processes. This can be accomplished using spreadsheets that are shared with the community Workgroup (Outcome 9) and linked to a 3-5-year Budget Plan.

Analysis

Analysis of the sixteen (*n=16*) individuals who attended two or more educational sessions resulted in the identification of three distinct categories; Initial Enrollees, Partials, and Completers (Appendix R). The initial Enrollees (*n=16*) were individuals who signed consents, refused to complete any additional survey information and attended less than 3 sessions. The Partials (*n=7*) completed consents, expressed interest in the information but were limited by family, work constraints or fear of exposure. This group minimally participated when they showed up, refused to provide any additional information and attended less than 4 sessions. The Completers (*n=9*) completed consents, the AFS, pre-and-post IPAQ surveys, physical activity calendars, class evaluations, fully engaged in class discussions and attended at least 4 of the 5 educational sessions. Initial Enrollees and Partials are not included in any data analysis.

Descriptive and qualitative analysis were used to evaluate the potential impact of the interventions and the success of the short-term outcomes. These analysis methods allowed the DNP project leader to collect data at various points throughout the project period. The participants were evaluated as a pre/post-comparison group over time as the interventions were aimed at improvement in physical activity based on increased knowledge (Sylvia and Terhaar, 2014). Analysis of short-term outcomes 1 and 2, was completed using descriptive information from attendance and registration forms. Variable information collected included age, gender, and race. The majority of individuals refused to provide addresses, income, or educational information.

Data from the IPAQ surveys yielded the most significant pre-to-post-comparison data for analysis. Information was analyzed utilizing descriptive statistics to determine if participants

increased their participation in physical activity of their choice and decreased their sedentary activity per week.

Data collected from the Likert-type evaluations of each session were analyzed utilizing both quantitative and qualitative methods. Evaluations were analyzed for trends and patterns as well as an average of scores from all five educational sessions (Appendix S). Data from the AFS questionnaire was analyzed based on the domains of the scales which ranged from strongly agree to strongly disagree with the familism constructs. Participant responses for each question in all domains were analyzed computing the mean for the set of scores (Appendix T).

Ethical Considerations

This project was conducted in a responsible and culturally appropriate manner, upholding the ethical principles of the Collaborative Institutional Training Initiative (Appendix U). Human participants enrolled voluntarily and with full knowledge of the parameters of the study, including risks and potential benefits (CITI, 2015). Participants were provided sufficient time to ask questions, receive information from the researcher, and reminded of their freedom to withdraw from the study at any time. The project was approved by the DNP Project committee and the Boise State University's Institutional Review Board (IRB) as a Quality Improvement project (Appendix V). All documents were available in English and Spanish, including recruitment scripts, flyers, (Appendix W) and informed consents (Appendix X). An MOU (Appendix H) is included from Saint Alphonsus Regional Medical Center along with letters of consent from the priests of St. Mary's in Boise (Appendix Y) and St. Paul's in Nampa (Appendix Z).

Throughout the SP open communication was maintained with the FCNs, stakeholders and project participants to mitigate any potential for conflict. Pre-scheduled check-in meetings with

the Boise State University Faculty Advisor were conducted to report and discuss project progress and identify any potential issues. No conflicts of conscience or personal conflicts of interest were identified.

The DNP project leader has no known unconscious bias in this project. Functioning within a supportive and rigorous educational structure such as this university's graduate framework provides a process for reflection and questioning to reduce potential bias. Ongoing and open communication between DNP project leader, Faculty Advisor, and the second reader also provided additional layers of support that diminish any potential for introduction of bias.

Threats to Quality

An extensive review of each component of the proposed project was completed and considered in the completion of the Boise State University IRB application. Through open discussions with the Project Workgroup, FCNs, Faculty Advisor, and second reader, potential threats to quality were mitigated.

Results

At the conclusion of the five educational sessions, the nine *(N=9)* Completers were engaging in regular leisure-time physical activity and meeting the physical activity guidelines of 150 minutes per week of moderate-intensity physical activity as recommended by the *2018 Physical Activity Guidelines*, (U.S. Department of Health and Human Services, 2018.) (Appendix AA). Comparison of pre-and-post IPAQ data indicated seven (78%) of the nine *(N=9*) Completers also decreased their sedentary activity as recommended by Healthy People 2020 guidelines (Office of Disease Prevention and Health Promotion, 2018) (Appendix BB).

Demographic data (Outcome 2) showed 88% of participants were female (ages 49-73), Hispanic (100%), and reported a diagnosis of diabetes or pre-diabetes (44%, n=4). Two

qualitative questions from the demographic form revealed the following trends. One hundred percent (100%) have a family member with diabetes, and one hundred percent (100%) reported a desire to improve their lifestyle and health outcomes through knowledge and prevention (Appendix L).

A paper/pencil tracking tool was used to evaluate both the type of physical activity selected in minutes per week and screen time. For the five-weeks of the educational sessions, the Completers diligently tracked the type of PA they engaged in and the number of minutes of PA. Only six (67%) of the nine Completers tracked screen time for a total of four days and quit. Reasons given for not tracking screen time included not wanting to decrease screen time as watching TV soap operas (novellas) is considered an important social and family activity within the Hispanic culture.

Further analysis of the calendar tracking tool indicated the types of physical activity and the number of minutes the Completers engaged in leisure-time physical activity. Activities included gardening and dancing, defined by IPAQ as a vigorous activity; housework or other outdoor activity defined as a moderate activity; and walking defined as low activity (Appendix CC). Participants evaluated each educational session using a Likert-type scale. Each session was scored as a five (1= low score, 5= high score) by the nine Completers indicating the information presented was helpful (Appendix S).

Evaluation of the AFS data (Outcome 3) indicates eighty-seven percent (87%) of Completers strongly agree with the core values of familism (Appendix T). Agreement with the familism constructs suggests the individuals place a high value in caring for others and therefore may not prioritize their own needs. However, despite the 87% agreement with familism values, the Completers ($N=9$) demonstrated they were successful in incorporating physical activity into

family responsibilities while preserving their cultural values. Participants reported merging family responsibilities with physical activities. All nine Completers introduced family walks into their routines, took children bike riding or took their family to the park to play soccer. Participants expressed a desire to do whatever necessary to ensure they and their children lived long and healthier lives. Participants' comments reflected this growing awareness that engaging in physical activity as a family benefitted the family as a whole just as important as going to work to benefit the family. This developing awareness is validated by the Completers post IPAQ results indicating an increase in minutes of physical activity with a 78% correlated decrease in sedentary activities (Appendix CC).

Process Measures and Interventions

The Hispanic population faces numerous barriers; its members are often uninsured and, faced with the financial cost of health care and a lack of social support systems, often live in fear of deportation, lack basic food and housing resources, face language barriers, and may be challenged with cultural or social conflicts (Mier, Carrillo-Zuniga, Ory, Smith, and Wang, 2012). Hispanics often place a low priority on addressing their individual health care needs. Accessing remedies or health care services are often seen as unsafe due to perceived or real fears of deportation, communication barriers and lack of access to care.

The educational sessions were designed to address the majority of those concerns. Recruitment occurred May - June 2018 at two Catholic churches in coordination with local FCNs and with the support of the parish priests. Announcements were made in Spanish with an informational session at the end of the church service. Individuals were encouraged to attend the informational sessions with family members. Individuals were reassured they could participate within their scope of comfort and were not required to respond to any questions or surveys which

were not comfortable for them. An outline of the educational sessions (Appendix J) was available at all times to the participants. Each educational session began with sharing previous experiences, a collection of questions, intervention discussion and sharing positive news. Many reflected on their health and family challenges in trying to stay healthy and expressed compassion with Tia Paula's issues.

Outcomes Analysis

All eight short-term outcomes were either partially or fully met. Outcomes 1 and 2 were only partially met due to recruitment and retention barriers. Outcome 3 was fully met with 100% (*N=9*) of the Completers completing the AFS. Outcome 4 projected 50% participants would demonstrate a 25% increase in PA; this was partially met as eight (89%) of the Completers (*N=9*) increased their PA by at least 25%. Outcome 5 was fully met with 100% of the Completers (*N=9*) completing a Likert-type scale after each educational session. Outcome 6 projecting 50% of participants would decrease screen time by 25% was only partially met as not all of the Completers tracked screen time for the project period. Pre-and-post IPAQ data did provide insight into sedentary time which includes screen time, and analysis indicated a 78% decrease in sedentary time by the Completers (*N=9*). Outcomes 7, 8 and 9 were all fully met (Appendix BB).

Unintended Consequences

The Logic Model and timeline provided guidance in staying on task and working toward the outcomes. Scheduling challenges occurred which required flexibility to remain within the timeline framework. During a pre-implementation planning meeting, the FCNs expressed concerns individuals would not attend if the five sessions were spread over the planned three-

month period. Based on the FCNs recommendations one session per week for five weeks was determined as the best option to improve retention.

A positive unintended consequence of the SP was the trust parishioners very quickly established with the DNP project leader and the FCNs. Individuals approached asking for community resources or referrals. Questions ranged from food insecurity to fear of deportation, emergency care needed or discussion of work-related concerns. The scope of the issues was not surprising as this population has extensive barriers to obtaining services and often live in fear of safety and security for themselves and their families.

The participants faithfully attended all five sessions even after working long hours during the day. The primary motivator reported for attending the sessions was the concern for the health of their families and the need for accurate information they could incorporate into their lifestyles. The Completers adopted new leisure time activities and some renewed interest in old activities. The common factor reported at each session was how they encouraged children and other family members to participate in physical activity. This unintended diffusion of the information from the educational sessions positively impacted children and family members who began bike riding, playing soccer at the park and going for walks. Ladies in the group reported renewing enjoyment of dancing once they learned dancing is a good way to engage in physical activity and dancing is an acceptable social norm in the Hispanic culture.

Missing Data

A total of 16 (*n=16)* individuals attended at least one educational session and signed a consent form. Nine individuals identified as the Completers (*N=9*) completed all SP forms and surveys and attended at least four of five sessions. Despite sensitivity to cultural needs, data is missing for the Initial Enrollees and Partials. These individuals are not counted in the SP project,

and therefore no data for these groups are included in data analysis. Data is missing for screen time as only six (67%) of the nine (*N=9*) Completers attempted to track screen time for a total of four days.

Actual Project Revenues/Expenses

Appendix P provided a projected budget for years one through three of the SP. Projected revenues were based on in-kind contributions of $995.00 and projected program cost of $1385.00. Actual project revenue and expenses were significantly less than the projected estimates due to several cost-saving factors. Final SP implementation cost was $609.00 with $225.00 in-kind contribution for a total program cost of $354.00 compared to a projected cost of $390.00 (Appendix P).

Interpretation

Results for the Completers (*N=9*) can be interpreted in various ways. Several trends emerged which include an appreciation for the information provided, requests for additional healthcare information, concern regarding the large percentage of diabetes among Hispanic families and the need for culturally relevant information (Appendix L). The Completers (*N=9*) adopted a variety of leisure-time physical activities and based on the IPAQ data began exercising regularly while attempting to decrease sedentary time. Anecdotal information shared during the education sessions indicated a large percentage are afraid they or their children may be at risk for diabetes in the future. The nine (*N=9*) Completers reported family members negatively impacted by out of control diabetes resulting in cardiac issues, amputations, blindness, strokes, and even deaths.

The results of the SP are consistent with the literature review which occurred before the implementation phase. Actual recruitment and retention of individuals were less than projected

and consistent with findings by Acevedo et al., (2014), CDC's (2017d) REACH Project, and numerous other studies. Hispanics placing trust in information provided by the Catholic Church and FCNs was consistent with research by Acevedo et al., (2014), which stresses the high value Hispanics place in faith-based information. Several studies on Hispanic health indicate the Hispanic core value of familism often results in not prioritizing the needs of self thereby not engaging in self-care activities (Corona et al., 2016; Steidel, & Contreras, 2003; Rojas et al., 2016). However, incorporating culturally relevant educational sessions which centered on the constructs of familism supported the success of the project. Based on results of the Familism Survey, eighty-seven percent (87%) of the Completers place a high value on familism but were still able to incorporate physical activity into their lifestyles. This action suggests the SP interventions presented within the context of familism were successful in helping the participants adopt self-care behaviors.

Impact of Project on People and Systems

There were four primary impacts of this SP on both people and systems. 1) Hispanic parishioners expressed surprise the FCNs, and the DNP project leader desired to provide educational sessions about ways to improve their health. Many expressed appreciations for the time and attention provided. 2) The FCNs verbalized the positive impact of the educational sessions but expressed surprise at the amount of work involved in the pre-implementation phase including the research, logic model design and identification of short and long-term outcomes. The FCNs expressed a desire to learn more about the methodologies of the SP process and health promotion strategies. 3) The church as a system was impacted through exposure to the FCNs and DNP leader at open information sessions during the recruitment period, and through an open-door policy welcoming any individual at the five educational sessions. Despite the low

enrollment and retention numbers, many Hispanic parishioners were exposed to information about the SP project in a variety of ways. Individuals who attended the educational sessions were provided with health care information on the importance of adopting physical activity and healthy behaviors to improve health outcomes. Individuals reported sharing information from each session with their neighborhood groups and relatives further spreading information from the educational sessions. During the sessions, participants took notes and asked for Spanish literature to reinforce the information provided. Participants took photos with camera phones of the tri-fold boards used at each session as the information was in Spanish, colorful and culturally relevant. The extended impact of the educational sessions is not measurable at this time. If the Completers and others exposed to the literature and information provided continue to engage in PA, it is possible diffusion may positively impact those individuals, neighbors, and families. 4) Other reasons for differences between observed and anticipated outcomes are related to the current political climate (Rojas, Grzywacz, Roblyer, Crain, and Cervantes, 2016).

Extensive media attention to the changing political policy of not welcoming immigrants negatively contributed to recruitment and retention. Visiting with Hispanics in the church lobby, many repeatedly expressed fears of deportation, fear of writing down addresses, or any identifiable information. Stories were numerous of friends, neighbors or relatives recently deported and held in jails, or immediately deported to their country of origin and separated from their families. Health disparities will continue as long as political policies fail to address the core issues of immigration. The scope of this project did not include evaluating connections between political policies and negative health outcomes. However, the low rate of participation and the

barriers reported are sufficient to show they are an underserved population of individuals trying to survive economically in the hope of a better future for their children and family.

Costs and Strategic Trade-Offs

Actual project revenue and expenses were significantly less than the projected estimates due to cost saving factors. The cost savings occurred due to successful mediation by the FCNs with the church office managers. The FCNs were able to communicate diplomatically with the church managers and negotiate room sizes and available dates; this allowed for the educational sessions to occur in rooms annexed to the church buildings avoiding the need for renting public rooms. Meetings with the FCNs occurred at the church office, a nurse's home or at a local Starbucks. Trade-offs to the room cost savings meant having to coordinate the opening and closing of the rooms with the church volunteers. In addition, some of the rooms made available did not have air conditioning which resulted in distress for some individuals. This issue was quickly resolved by purchasing ice and cold drinks for the meetings instead of just providing hot coffee. Expenses for consultants were also not incurred as the Spanish translator refused to accept any payment for her services. Food expenses were minimal as individuals insisted on bringing their favorite foods which resulted in an unexpected learning opportunity as the nutritional value of each dish was discussed among the group. Individuals provided each other with suggestions on how to transform the dish into a healthy option. This provided an opportunity for each individual to demonstrate their understanding of the information presented. In addition, cultural myths, misinformation and other barriers to adopting healthy habits were addressed. Planning for future presentations, budgets may need to include funds for food expenses, room rentals and other incidental costs which were not incurred with this SP.

Policy Implications

Population health is recognized as an important framework for achieving a lasting impact on health outcomes and reducing health disparities (CDC, 2008). Population health focuses on community wide interventions which address the conditions in the places where we live, learn, work, and play. These conditions are defined by the CDC as the social determinants of health (SDOH). According to the CDC, the SDOH are shaped by the distribution of money, power and resources at global, national and local levels, which are themselves influenced by policy choices.

Reducing health disparities and improving health outcomes are important goals of many national organizations, including Healthy People 2020 (Office of Disease Prevention and Health Promotion, 2018). However, health outcomes for racial minorities are not improving as quickly as hoped. This is evident when comparing Hispanic health outcomes to non-Hispanic whites. On a local level there are many stakeholders, change agents, and champions whose aim is to improve the lives of disadvantaged populations and reduce health disparities. Recognizing the needs of these stakeholders is important to help them succeed and meet the goals of their collective organizations (Flores, 2016). Organizations focused on improving population health, need supportive community engagement and policy advocacy to achieve positive health impacts. Community Health Needs Assessments for Saint Alphonsus and St. Luke's regional health systems cite reducing health disparities as a strategic priority for the Treasure Valley (Saint Alphonsus, 2016; St. Luke's Regional Medical Center, 2016). Additional key stakeholders who are also focused on reducing health disparities include the United Way of Treasure Valley

(ALICE report, 2016), Terry Reilly Health Services (2017), and Southwest Health District, Region 3, (2017).

As the Treasure Valley continues to increase in population and Hispanic immigrants, local organizations providing support to the disadvantaged and underserved may experience challenges in securing sustainable financial resources and volunteers. Creation of a broad-based collaborative partnership among the various community groups would facilitate addressing the local social determinants of health inequities. Developing this partnership would potentially create a mechanism resulting in mutual benefits to all participants and a community group with greater potential for responding to the needs of the community (CDC, 2008). A collective group willing to organize and prioritize services may be able to effectively spread resources, eliminate duplication and reduce service gaps. To try and make a change without losing any of the much-needed volunteer groups requires knowledge of coalition building, consensus identity, and policy development. This is politics at the grass-roots level.

In 2008, the CDC published a resource to help communities address SDOH. The CDC publication provides several examples of successful community partnerships. The Latino Network is a partnership of various community and faith-based groups in Portland, Oregon. The network was formed in 1996 to address social determinants of health and reduce health disparities in black and Latino communities in Portland. This Portland group partners with nonprofit, corporate, government and foundation groups with shared values who are committed to creating a community where Latino families thrive (Latino Network, 2018). The mission of the group is to provide Latinos with transformational programs aimed at educating and empowering them while staying connected to their culture, language, and diversity. Through the power of multicultural, multi-generational, and cross-sector partnerships the Portland Latino

communities are thriving, engaged and influential (Latino Network, 2018). The increasing Hispanic population in Idaho will require cross-sector partnerships and policy advocates who have an increased knowledge and awareness of Hispanic health care needs and the barriers they must overcome to achieve positive health outcomes.

Low-income populations have an increased risk of health problems which worsen over time (Cunningham, 2018). This risk is present even among healthy low-income people compared to higher income individuals. Hispanics have stressful issues which negatively impacts their health. A population fearful of accessing services and with little to no trust outside their immediate family circle presents a challenge in identifying ways to assist them. As a nursing profession, we are bound by ethical and moral obligations to seek ways of improving the health outcomes of populations. Successful policy strategies are needed to improve the diversity of the nursing workforce to reflect our changing demographics (Mason et al., 2016). This step will help improve the cultural competency of our health care delivery systems. At a local level, increasing recruitment of Faith Community Nurses who speak Spanish or are Hispanic may be the start of a catalyst for equity and social change. Developing a strategic goal of having a Spanish speaking FCN in every faith-based organization will provide a broad network of support for local Hispanics.

The current political climate in our nation and our state is in such chaos that distrust and fear of and by immigrants have exponentially increased over the last several years. This political rhetoric stigmatizing immigrants in our country continues to widen the gap between trust and mistrust. Historically, public health has been forced to address this anti-immigration rhetoric. In a new *American Journal of Public Health* editorial, Amy Fairchild, associate dean of academic affairs at Texas A&M School of Public Health provides an extensive history of the

impact of immigration in the United States (Mitchell, 2018). Fairchild (2018) describes how immigration laws have impacted public perception of immigrants contributing economically to the needs of this country, yet are often seen as undeserving of the benefits of living and working in this country.

Immigrants, legal or not are a central theme of the current political administration. The separation of families, military presence at our borders and the media claims that immigrants are gang members, rapists, drug dealers and members of ISIS promotes a climate of bullying and fear. Added to this biased perception of immigrants is the new proposed green card rule by the Department of Homeland Security (DHS) aimed at denying green cards to legal immigrants who receive or may be likely to receive government benefits (DSHS, 2018). If finalized as written, the rule would prevent immigrants from Medicaid benefits, Medicare Part D low-income subsidy, Nutrition assistance programs (SNAP), housing and rental assistance. Medicaid benefits are utilized for access to care as are Medicare Part D benefits. This targeted policy is perceived by many as another example of hostile policies toward immigrants. Policies which promote fear for immigrants who seek healthcare will do nothing to improve health outcomes of vulnerable underserved populations. Policies which target vulnerable/immigrant populations will only serve to drive this population deeper into the shadows. If this rhetoric of animosity continues, the negative cultural climate will create an even greater need for health care services delivered in perceived safe sites in the community and provided by the most trusted profession in America, the registered nurse (RN) (Gallup Poll, 2018).

In 1998, the American Nurses Association (ANA) issued a position statement on *Discrimination and Racism in Health Care*. In brief, the statement states the following, “the ANA is committed to working toward the eradication of discrimination and racism in the

profession of nursing, in the education of nurses, in the practice of nursing, as well as in the organizations in which nurses work" (ANA, 1998, p.1). Immigrants are a vulnerable population with numerous health care needs. Fitzgerald, Myers and Clark (2017) write of the negativity associated with hostile environments and the risk for substandard care.

Nurses are at the core of population health issues, are accustomed to providing health care under extreme conditions and often face moral distress when personal values conflict with policies or politics. Faith Community Nurses and all nurses in general will need training on strategies to promote trust and feelings of safety in delivery of care to underserved populations. Nurses working in community settings and dealing with the ethical dilemmas of immigrant populations will need supportive listening, leadership guidance and supportive policies. Nursing leadership engagement in policy making and strengthening our public health policies will help address these issues of inequities and injustices. However, the timing may be too late for those underserved populations who continue to lose the battle toward achieving healthy outcomes.

Limitations

The design of the SP provided a framework suitable for a first-time implementation. The SP implementation resulted in full to partial attainment of short-term outcomes 1- 9. The SP implementation involved local Hispanic adults who volunteered to attend the educational sessions. The small number of participants is a limitation although it is consistent with the literature indicating Hispanics are difficult to recruit into any group studies, and once recruited into studies, retention to completion of the study is poor (McAvinchey, Moncada, Quiroz, & Sha, 2017; Thurkettle, 2014). An additional limitation of the study is based on a potential halo effect. Participants verbalized appreciation the Faith Community Nurses and the DNP project leader were Hispanic and spoke fluent Spanish. Likert-like evaluations resulted in 100% strongly

agreed responses that the sessions were valuable. With a small sample size (*N=9*) it is possible the positive results were related to a halo effect.

Self-reported measures of physical activity may be higher or lower when compared to directly measured levels such as accelerometry (Prince et al., 2008). The results of the Prince study suggest that the measurement method may have a significant impact on the observed levels of physical activity. The Prince study indicates the need for valid, accurate and reliable measure of physical activity. Winckers (2015) conducted a study with 196 adults to describe educational differences in the validity of self-reported physical activity. Winckers' findings confirmed the hypothesis that self-reported physical activity questionnaires are less valid in lower educated populations. Both studies are relevant to this SP as participants self-reported physical activity levels at the start and end of the project utilizing the IPAQ survey tool and supplemented with a self-reported pen/pencil activity log at the end of the project. No information was obtained from participants regarding their educational level. Outcomes based on the physical activity levels of the nine participants prior to the SP and at the end of the five educational sessions may be limited based on the self-reporting methodology of the project.

Another implementation limitation included the need for additional staff resources. The FCNs were flexible, supportive volunteers working full-time in their primary jobs and committed to the success of the SP. They consistently stretched their personal time to include SP planning meetings, meetings with the priests and church office managers, and attended multiple church masses for recruitment announcements with the DNP project leader. In addition, the FCNs made every effort possible to attend all five of the educational sessions. This created a stressor for them and the DNP leader, as it was challenging at times not knowing who was going to be opening the classroom doors or helping with the educational sessions. Challenging site logistics

included room temperature, insufficient chairs, having a coffee pot but no cups, and in one case competing with a festival outside the classroom complete with hot tamales and tacos. Future designs with increased flexibility in location and time frames will mitigate these issues.

Additional limitations include participants' limited literacy necessitating every document be read out loud and the limited understanding of survey questions which also necessitated taking 1:1 time with each individual (Brunk, Taylor, Clark, Williams, & Cox, 2015). This was not only time intensive taking away from group sharing, but created stressors for the individuals struggling with the forms and the individuals wanting to begin the class session. Future planning should include large font printed material at a 3rd grade level with pictures replacing words as much as possible and technology to allow projecting material onto a screen to facilitate group sharing. Despite these limitations, the SP was impactful to the individuals who attended including the FCNs and DNP project leader.

Conclusion

This SP was designed to succeed through communication, collaboration, and coordination with community stakeholders who are vested in improving the health outcomes of the Hispanic population in the Treasure Valley. The framework of the SP is based on the cultural trust in FCNs and the presentation of the educational information in the context of familism (Acevedo et al., 2014; Campos, Ullman, Aguilera & Dunkel, 2014; Steidel & Contreras, 2003; Zeiders, Updegraff, Umana-Taylor, McHale & Padilla, 2015). Improving retention and recruitment of Hispanic individuals into healthcare studies or health promotion activities requires addressing their fears, perceptions of risk, and knowledge and respect of their cultural values (McAvinchey, Moncada, Quiroz and Sha, 2017). Further studies are needed among the Hispanic population related to the role of physical activity and diabetes management.

Sustainability

The design of the SP indicates the importance of a sustainable model which is culturally relevant, based on the faith of the target population and delivered in a faith setting which promotes trust among the intended audience (Acevedo et al., 2014). At the last session, participants requested ongoing educational sessions with the FCNs. The FCNs reinforced their desire to plan further events and asked participants to sign up if they wished to attend future events or were willing to become church volunteers to help with those events. All registered participants signed up, with one participant stating she was willing to teach Zumba classes at the church in the fall when school resumed. Participants expressed concerns regarding a lack of culturally relevant and safe places to obtain information on other topics of interest to their families, friends, and neighbors. Requests included a need for classes specifically on diabetes, blood pressure management, weight reduction, parenting in the context of understanding how to maintain cultural traditions with children who desire to assimilate with their peers, educational opportunities for their children, employment preparation, labor rights, housing information, legal services, and of course accurate information about immigration laws. FCNs cannot be experts in all these topics. However, because of the trust placed on FCNs by the Hispanic population, the FCNs are the ideal leaders to assist this population with education, informational brochures, and referrals to community agencies or organizations who can help address these issues and concerns. Because of the FCNs potential to reach underserved populations, extensive training in population health needs to occur with the FCNs.

Potential for Spread to Other Contexts

The design of the SP indicates the importance of a sustainable model which is culturally relevant, based on the faith of the target population and delivered in a faith setting which

promotes trust among the intended audience (Acevedo et al., 2014). The potential for spread to other contexts is possible given the success of this SP. Currently, there are multiple community stakeholders providing health services to the Hispanic population. Stakeholders' strategic plans aimed at improving Hispanic health outcomes should include health promotion and population-based principles, which help educate clinicians, practitioners, nurses, and other health care professionals on the importance of recognizing the relationship between the cultural needs and core values of the Hispanic population. Cultural needs include understanding patient education should be framed within the context of importance to the family as a unit and not the individual (familism). Ensuring Spanish translators or Spanish speakers are addressing Hispanics utilizing the formal form of address (usted and not tú), making eye contact, but not retaining a fixed stare as it increases feelings of fear and distrust. Additionally, professionals delivering care should consistently wear name badges with their photos clearly displayed to increase trust, and not use words such as "interview" for a health history as this has a negative connotation which is related to immigration interviews (McAvinchey, Moncada, Quiroz and Sha, 2017). These simple changes can increase trust and therefore potentially may lead to improved compliance with the individual's plan of care.

The final SP session was both celebratory and moving. Many expressed appreciations that the information was provided in Spanish and "understandable" to them, implying the importance of delivering low literacy information both orally and in written form. Others were tearful and openly expressed with hugs their appreciation for the "giving" of time and sharing of knowledge by the DNP project leader and FCNs. As a Hispanic nurse, observing the appreciation for the sharing of educational knowledge within the context of the Hispanic culture and familism was both validating and encouraging. Validating in that we need more diversity

within the profession of nursing, but also encouraging that culturally relevant interventions may positively impact Hispanic health outcomes.

Implications for Practice and Further Study

This SP is a good start toward addressing a very large problem. Further studies are needed among the Hispanic population related to the role of physical activity and diabetes management. Hispanics are needed who are willing to overcome their fears and participate in health promotion services offered. To improve recruitment and retention, cultural norms must be considered, including supporting the structure of FCNs. Intentional inclusion of FCNs in the design of health promotion activities aimed at the Hispanic population may help decrease the barriers Hispanics face in accessing and participating in services. Working collaboratively with community stakeholders and sharing the findings of this SP may create opportunities for additional project designs.

Next Steps and Dissemination

The DNP project leader plans to complete the Saint Alphonsus Faith Community Nurse training tentatively scheduled for November 2019. Once the training is complete, next steps include staying engaged with the FCNs at St. Mary's and St. Paul's churches. Both FCNs have expressed a desire to continue conducting health promotion activities within their parishes but voiced a lack of experience in preparing material which is culturally relevant and likely to succeed with the Hispanic population. This ongoing engagement will improve the likelihood of dissemination of the SP topic and allow for further presentation of other health topics. Dissemination of findings is important, as the SP outcomes may encourage or support the work of other individuals desiring to improve Hispanic health outcomes. Plans for dissemination include submitting the SP to Boise State University's Scholar Works. Other opportunities for

dissemination and sharing of the SP findings including following up on speaking opportunities to local diabetes educators, Healthcare and Technology Conference for Hispanic high school students in March 2019, and possible presentation of findings at a Faith Community Nurse meeting.

Concluding Summary

New leaders are needed to support the ongoing work of current stakeholders who are diligently working to meet the escalating health care needs of local Hispanics. The Hispanic population continues to grow as individuals and families seeking a better life for themselves and their families move to the area. Options are few for this population who are identified in the media as undeserving of the basic human rights we unconsciously all possess. As immigrants they accept the role of fugitives in an increasingly unwelcome nation, solely because the potential for success here outweighs the depth of poverty and hopelessness in the country they have left. Any services provided to this disadvantaged population are valued by them and contribute to a healthy community of diverse people trying to live longer, healthier lives where we live, work, and play (CDC, 2017c).

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Appendix A

Literature Review Summary Table

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
1	Crain,Hayes, King, Craine, O'Connor, Pronk, & Sherwood (2010)	Randomized Controlled Trial	N=1049 from a large managed care organization in Minnesota. Randomly assigned to either treatment (KAM) or Usual Care (UC) with PA assessed using the CHAMPS questionnaire	Study found a sustained and significant benefit of the intervention at 6, 12, and 24 months with kcal/weekly increased for moderate and vigorous activities for the KAM group compared with the UC participants. Conclusion of the study: The KAM intervention (telephone & mail based) PA maintenance intervention was effective at maintaining PA in short term (6 months) and long term (24 months) relative to usual care participants.	Study period was 2004–2005 prior to increase in electronic and TV use by older adults. Effectiveness of phone & mail interventions today might influence results. Study focused on maintenance and not initiation.	Level 1 RCT Quality A
2	Buono, Hovell, Liles, Mulvihill, Sallis, Schade, & Washington (2008)	Randomized Controlled Trial	N=151 Community setting exercise site near a community clinic	Study purpose to determine the efficacy of community-based, culturally tailored exercise intervention on PA outcomes among Latino women (Latinas). Findings indicate a culturally tailored aerobic dance intervention can increase vigorous PA in low-income overweight sedentary Latinas.	Walking improvements were not sustained at the 12 mo. Data for BMI was not obtained nor measurements of body fat to demonstrate lean body mass changes.	Level 1 RCT Quality A
3	Delbaere, K., Garcia, Lord, Severino, Schoene, Toson, Valenzuela, (2015)	Randomized Controlled Trial	N=90 with mean age of 81.5 years without major cognitive impairment living in community older adult dwelling	Intervention group participants (IG) played 4 stepping games that required them to divide attention, inhibit irrelevant stimuli, switch between tasks, rotate objects, and make rapid decisions. Three 20-minute sessions per week over 16	Unsupervised delivery of intervention lacked standardization among participants. Interventions that included both PA	Level 1 RCT Quality A

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				weeks unsupervised at home. Control group participants received an evidence-based brochure on fall prevention. Before and after measurements were completed on processing speed, attention/executive function, visuo-spatial ability, concerns for falling, and depression.	and cognitive activity were not measurable independently leaving unknown whether both must be present to obtain same results.	
4	Aoyama, Higuchi, Kajiwara, Nishiguchi, Yamada, & Yoshimura (2013)	Randomized Controlled Trial	Community dwelling Japanese adults >65 years old. N=264 randomized into multitargeted step program (MTS) and control group for 24 weeks	Measurements included number of falls and fall-related fractures over a 12-month follow-up period after completion of the intervention. Other measurements included stepping accuracy, gaze behavior while performing MTS test, and results of 4 clinical tests relevant to assessment of fall risk. Conclusion of the study: the participants who performed MTS tests combined with a multicomponent exercise program showed greater improvement with less frequent fall rate.	Study was not double blinded land falls were self-reported, increasing likelihood of bias in reporting falls.	Level 1 RCT Quality A
5	Christiansen, Guse, Layde & Peterson. (2015)	Randomized Controlled Trial	N=1,899 Wisconsin participants >65 years old. Randomized into 3 groups (enhanced system, standard, and control)	In 2012, Wisconsin ranked second in the U.S. in frequency of deaths from unintentional falls in population >65 years old. Enhanced group included the CDC Stepping On workshops. Study findings indicated that the enhanced support system Stepping On was effective in reducing the number of falls by 37%.	Limitation of the study includes that more than 1,000 participants who did not complete both program surveys. Final sample of 817 was primarily female.	Level 1 RCT Quality A
6	Brayne, Cowan, Kelly, Lafortune&	Systematic Review of combination	40 systematic reviews included evaluating PA in	Systematic reviews focused on interventions targeting PA and/or issues that prevented or motivated	Review focused on studies from developed countries	Level II - Systematic

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
	Olanrewaju (2016)	of RCTs and quasi-experimental studies	adults >55 years old living in the community setting in the UK. Three topics examined. Q1 (n=14 reviews) 8,360 participants, Q2 (n=17) 79,650 participants and Q3, (n=9) 22,413 participants	PA. Forty systematic reviews were identified and included. Q1: effectiveness of PA for delaying cognitive decline. Q2: effective interventions to promote PA and maintenance. Q3: barriers to and facilitators of uptake of PA. Review findings indicate that several interventions were effective in the short term. Further findings indicate that frail older adults adhere better to activities of shorter duration. Suggestion for a combination of behavioral and cognitive intervention may be effective for long-term maintenance.	only and published in English. Study did not differentiate findings based on long-term or short-term follow-up.	Review Quality A
7	Crombie,, Donnan, Gellert, McMurdo, Sniehotta, & Witham (2015)	Systematic Review	N=584 community dwelling adults >65 living in Scotland. Systematic review of 44 studies examining perceived barriers to PA	Study examined 4 barriers to PA. #1 Poor health, #2 age/lack of interest, #3 lack of access, and #4 concerns about safety. Findings indicate that poor health/age and lack of interest are associated with PA. Lack of interest indicates need for interventions targeting increasing motivation.	Cross-validation is needed for the four barriers and further long-term analysis needs to be conducted.	Level II-Systematic Review Quality A
8	Ickes & Sharma (2012)	Systematic Review	N=52 community dwelling Hispanic adults	Systematic review of PA interventions in Hispanic adults between 1988 and 2011. Examined interventions with social cognitive theory and transtheoretical model. Findings indicate the need for more interventions that specifically target high-risk ethnic populations, including Hispanics.	Interventions were in English language only and not Spanish and implemented only in the United States.	Level II-Systematic Review. Quality A

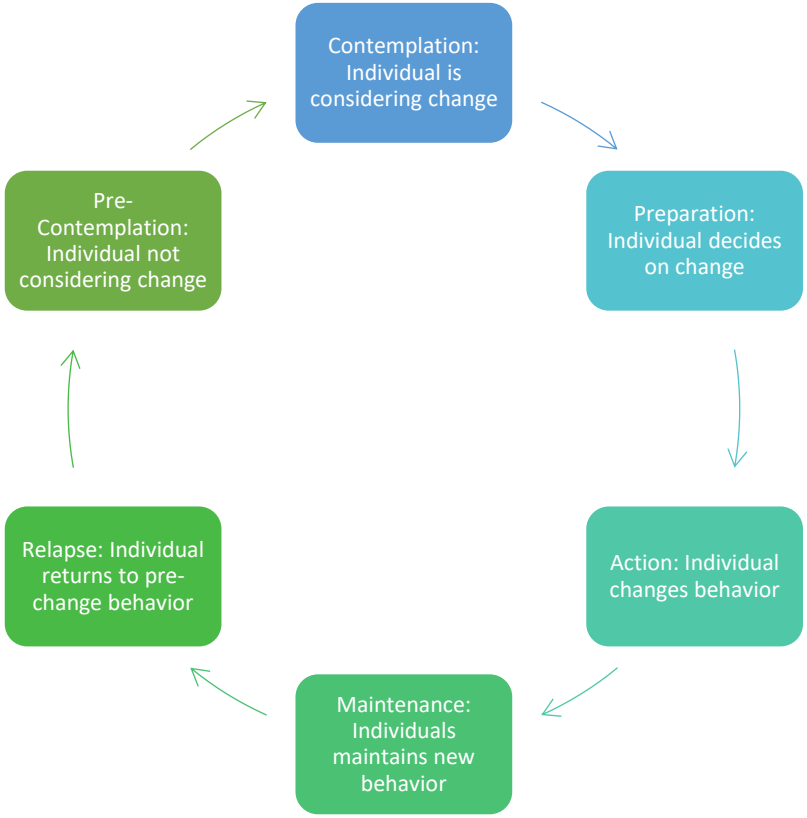
Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
9	Layne et al. (2015)	Systematic Review	N=57 abstracts included in the study (44 accelerometer, 13 pedometer)	Systematic review of continuous monitoring technologies such as accelerometers and pedometers for PA measurement in Hispanic or Latino populations between 2000 and 2013. Findings indicate that few investigators report the information necessary to be compliant with all the recommended guidelines for continuous monitoring technologies.	Lack of consistent features and instructions for use of accelerometers results in inconsistent comparison data.	Level II-Systematic Review. Quality B
10	Atherton, Bridle, Spanjers, Patel, & Lamb (2012)	Systematic Review and meta-analysis	Nine trials randomized (*n* = 667 participants). Sample size ranged from 14 to 193. Mean age of populations >65 years old. Depression eligibility was determined by diagnosis, symptom checklist, or 3 questions screen	Systematic review evaluating effect of exercise on depression severity in older adults. Review identified nine RCTs evaluating 3–12 -month effect of exercise on depressive symptoms. A small, statistically significant effect was found favoring physical activity. Prescribed structured exercise mixed with endurance and strength training helps reduce severity of depression. Mixed exercise (Tai Chi and Qi Gong) is minimally sufficient in quantity and quality.	Insufficient evidence in both quality and quantity to allow for specific intervention use.	Level II - Systematic Review & meta-analysis Quality B
11	Blondell, Hammersley-Mather, & Veerman (2014)	Systematic Review and meta-analysis of longitudinal studies	N=37 studies were reviewed with sample sizes from 27 to 12,303. Follow up time ranged from 1–21 years	Longitudinal observational studies show an association between higher levels of physical activity and reduced risk of cognitive decline and dementia.	Selection limitations can introduce bias. Only prospective design was included with participants who reported baseline PA.	Level II-Systematic Review & Meta-analysis Quality A
12	Bautista, Gamboa, Kahramanian,	Systematic Review	N=159 studies reviewed	Systematic review of literature examining the relationship between acculturation and selected behaviors,	Inconsistent measurement of	Level II-Systematic Review

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
	Lara, & Morales (2005)			healthcare use measures, and health outcomes among U.S. Latinos. Findings indicate strong evidence toward a negative effect of acculturation on health behaviors overall (substance abuse, diet, birth outcomes) among Latinos living in the United States.	acculturation in studies reviewed.	Quality A
13	Bustamante, Fogg, Hoyem, Manning, Marquez, Morris, Staffileno, Wilbur, & Wilson (2012). Staffileno, B. A., Wilbur, J., & Wilson, R. S. (2012) Lee, R. E. (2015)	Descriptive cross-sectional study design	N=174 self-identified Latinos recruited in Chicago communities centers, fairs, and senior centers. (men = 46 and women = 128)	PA was measured with an accelerometer worn for 7 days. Episodic memory and executive function were measured with validated cognitive tests. Participants had a score less than 14 on a 21-point mini-mental exam.	Cross-sectional study limits ability to identify the true direction of associations between PA and cognitive function.	Level III Quality B
14	Hu, Wallace, McCoy, Amireshani (2014)	Quasi-Experimental design	N-131 Hispanics diabetics which included 65 patients and 66 family members	The IPAQ and pedometers were used in an 8-week diabetes self-management intervention. The interventions included training in use of pedometers with successful decline in sedentary activity and served as a motivator to help increase PA.	Missing data and self-reporting may have had an impact on the study.	Level II Quality B
15	Brunk, Taylor, Clark, Williams, Cox, (2015)	Descriptive qualitative	N-9 Hispanics adults with T2D	Rural Community Center recruited participants for an educational program on low glycemic foods, and glucose self-monitoring. Feedback	Small sample size.	Level III Quality C

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help answer the EBP question	Limitations	Evidence Level & Quality
				was obtained from participants on four themes: barriers to change, personal responsibility, information and knowledge, and experiences with new behaviors.		
16	Rojas et al. (2016)	Qualitative Design	N-93 Hispanics from Calif and Mass. On social stressors and familism	Analysis revealed 3 forms of ambivalence specific to familism among immigrant families. Participants described situations in which competing views of familism influenced interpretation of unanticipated stressors.	Study aimed to explore and interpret expressions of familism in relation to social stressors.	Level III Quality B
17	Corona, Campos, Chen (2016)	Qualitative Design	N-171 Latinos, N-225 European and N-415 East Asian Americans	Study focus on familism as a negative or positive in health outcomes. Results suggested that familism can be beneficial for Latinos and non-Latinos.	Participants were recruited through a large California university with all surveys conducted online.	Level III Quality B

Appendix B

Transtheoretical Model



Adapted from DiClemente, C. C., & Prochaska, J. O. (1983)

Appendix C

Logic Model

Scholarly Title: *Increasing physical activity in Hispanic adults to reduce complications of type 2 diabetes.*

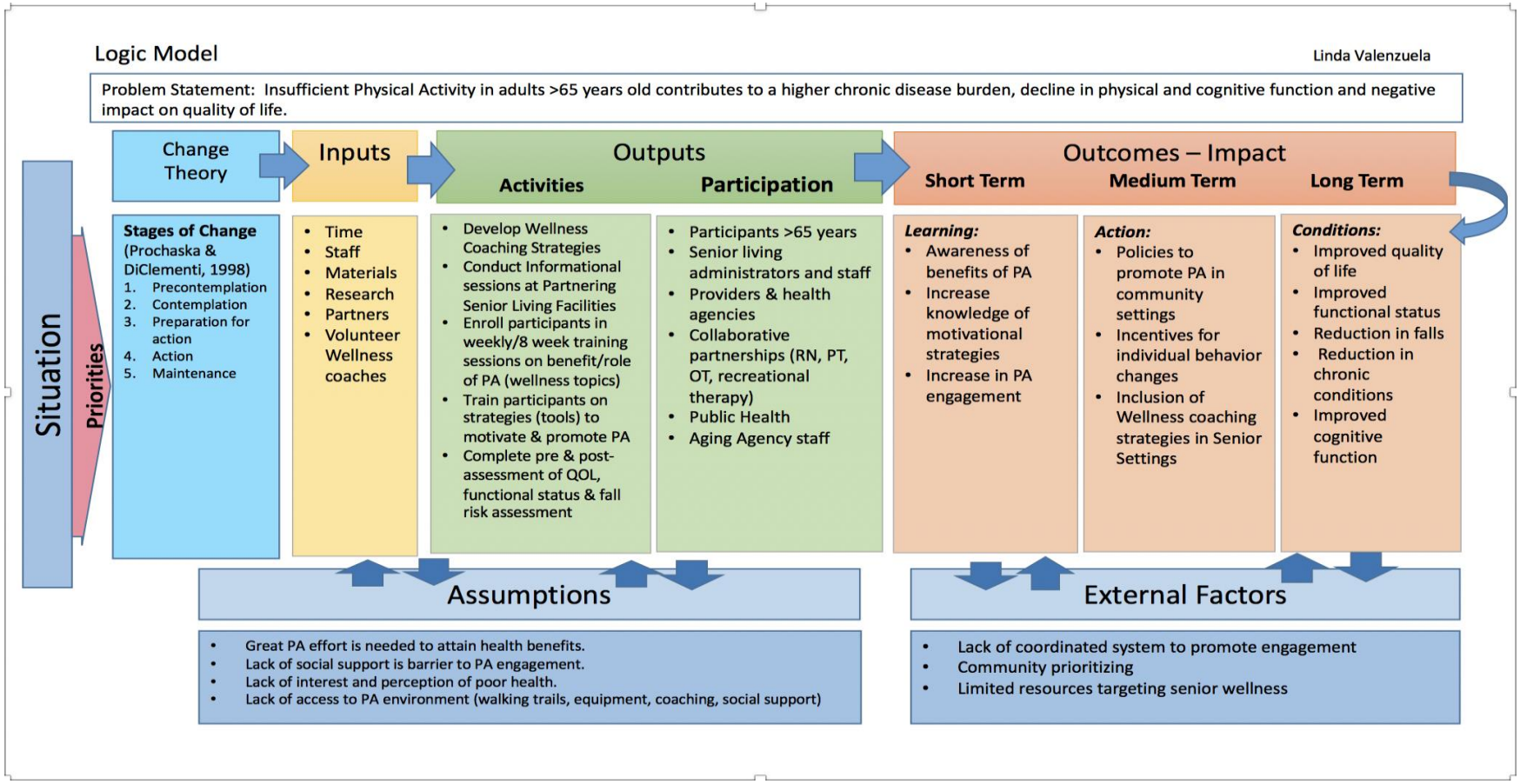
Resources/Inputs	Activities	Outputs	Outcomes: Short-Term	Outcomes: Long-Term	Impact
Resources include the human, financial, organizational, and community resources a program has available to direct toward the work.	Includes the processes, tools, events, technology, and actions that are intended to bring changes or results.	Directs products of program activities and may include types, levels, and targets of services to be delivered by the program.	Specific changes in program. SMART. Attainable during the DNP Scholarly Project timeline.	Specific changes in program. SMART. Attainable 1–2 years after the DNP Scholarly Project is completed.	Fundamental intended or unintended change occurring because of program activities within 3–5 years.
▪ Presentation of educational sessions promoting physical activity to Hispanic adults, > 18 years old in the Treasure Valley ▪ Project Leader ▪ Treasure Valley Stakeholders Advisory Group ▪ Spanish Literacy Consultant ▪ Evaluation and Assessment Consultant	▪ Identify and select evidence-based and culturally acceptable educational interventions promoting PA and lifestyle changes to reduce type 2 diabetes. ▪ Develop or adopt evidence-based tools for tracking physical activity and lifestyle changes. ▪ Communicate with community stakeholders to form an Advisory Group and obtain support for Scholarly Project ▪ Identify community sites for conducting the educational sessions March-April 2018.	▪ Handouts and outline of planned interventions which are evidence based, and linguistically and culturally relevant to Hispanic adults ▪ Evidence-based tools for tracking PA and diabetes self-care activities ▪ Informed consent, and demographic registration forms designed for low literacy and in Spanish/English ▪ Letter of agreement/MOU	1. 30 Hispanic adults will complete a face-to-face interview and consent to attend educational sessions by end of May 2018. 2. 80% of Hispanic participants completed at least 4 of the five educational sessions by August 2018. 3. 100% of enrolled Hispanic participants completed the Attitudinal	10. Community partners will continue sponsorship of educational sessions by June 2020. 11. Faith community nurses will continue promoting and leading educational sessions by June 2020.	14. Increase in percent of Treasure Valley Hispanic adults who participate in regular physical activity as defined by Healthy People 2020. 15. Decrease in diabetes related complications among Hispanic Treasure

Resources/Inputs	Activities	Outputs	Outcomes: Short-Term	Outcomes: Long-Term	Impact
▪ Faith Community Nurses	▪ Identify 2 Faith Community Nurses willing to volunteer and assist with coordination of educational sessions March 2018. ▪ Coordinate with stakeholders and Faith Community Nurses to identify eligible participants, April–May, 2018 ▪ Engage in recruitment activities and enroll participants April-May 2018 ▪ Conduct face-to-face interviews with participants and obtain Informed Consent and demographic registration forms May 2018. ▪ Complete International Physical Activity Questionnaire (IPAQ) and Familism Attitudinal Survey (AFS) prior to start of educational sessions June 2018. ▪ Conduct five educational sessions by end of August 2018	with community partners for implementation of Scholarly Project ▪ Low literacy Spanish/English physical activity & screen-time tracking calendar ▪ Low literacy English/Spanish class evaluation form. ▪ Advisory group feedback on SP design and implementation	Familism Scale by end of June 2018. 4. 50% of Hispanic participants demonstrated a 25% increase in physical activity (PA) levels after attending five educational sessions as evidenced by pre-to-post-tests IPAQ scores completed, by August 30, 2018. 5. 80% of Hispanic participants completed evaluations for each educational session attended and rated the interventions as helpful on a Likert-type scale of 1 to 5 by August 2018. 6. 50% of Hispanic participants decreased their screen time by 25% by August 30, 2018 7. 100% of Hispanic participants were		Valley residents.

Resources/Inputs	Activities	Outputs	Outcomes: Short-Term	Outcomes: Long-Term	Impact
			recruited through coordination with local Faith Community Nurses in the Treasure Valley by June 1, 2018.		
Financial Resources Donations (in kind) Grants	▪ Develop financial budget and present to stakeholders for review and consideration of in kind donations by April 2018. ▪ Research local grant opportunities and apply for funding for cost of the fives educational sessions (food, drinks, incentives).	▪ Timely and accurate completion of both budget and grant applications. ▪ 6 slide PowerPoint presentation for stakeholders.	8. 80% of funding needed will be secured from grants or in-kind contributions by May 2018.	12. Community stakeholders will continue funding educational sessions by June 2020.	16. Community stakeholders financially support health promotion activities for Hispanic community by June 2020.
Marketing Advertising Faith Community Nurse (FCN) Volunteers	▪ Develop English/Spanish informational recruitment flyers, consent forms and handouts for use at educational sessions by March 2018. ▪ Faith Community Nurses to distribute informational recruitment flyers at their individual parishes after IRB and SP approval received June 2018.	▪ Collaborative engagement among stakeholders and Faith Community Nurses (FCN) working toward common goals.	9. One community Workgroup was formed with a minimum of two community stakeholders focused on providing health services to the Hispanic population in the Treasure Valley by April 2018.	13. Expanded relationship among community stakeholders by April 2020.	17. Hispanic educational events are promoted and supported annually by April 2020.

Appendix D

Logic Model Two



Appendix E

Attitudinal Familism Survey (AFS)

Familism Scale	7 Strongly Agree	6 Agree	5 Somewhat Agree	4 Neither agree or disagree	3 Somewhat Disagree	2 Disagree	1 Strongly Disagree
	Totalmente de acuerdo	De acuerdo	Bastante de acuerdo	Ni de acuerdo ni en desacuerdo	Parcialmente En desacuerdo	En desacuerdo	Totalmente en desacuerdo
1. Children should always help their parents with the support of younger brothers and sisters, for example, help them with homework, help the parents take care of the children, and so forth. *Los hijos siempre deben ayudar a sus padres con el sostén de sus hermanos menores, por ejemplo, ayudar con las tareas escolares, ayudar a cuidarlos, etc.*	○	○	○	○	○	○	○
2. The family should control the behavior of children younger than 18. *La familia debe controlar el comportamiento de los miembros de la familia menores de 18 años.*	○	○	○	○	○	○	○
3. A person should cherish the time spent with his or her relatives. *Una persona debe apreciar el tiempo que pasa con sus familiares.*	○	○	○	○	○	○	○
4. A person should live near his or her parents and spend time with them on a regular basis. *Una persona debe vivir cerca de donde sus padres vivan y debe pasar tiempo con ellos regularmente.*	○	○	○	○	○	○	○
5. A person should always support members of the extended family, for example, aunts, uncles, and in-laws, if they are in need even if it is a big sacrifice. *En caso de necesidad una persona siempre debe apoyar a otros miembros de su familia, (por ejemplo, tías, tíos y familiares políticos) aunque sea un gran sacrificio.*	○	○	○	○	○	○	○
6. A person should rely on his or her family if the need arises. *Una persona debe contar con su familia en casos de necesidad.*	○	○	○	○	○	○	○
7. A person should feel ashamed if something he or she does dishonors the family name. *Una persona debe sentirse avergonzada si deshonra a su familia.*	○	○	○	○	○	○	○
8. Children should help out around the house without expecting an allowance. *Los hijos deben ayudar en las labores de la casa sin esperar pago.*	○	○	○	○	○	○	○
9. Parents and grandparents should be treated with great respect regardless of their differences in views. *Los padres y los abuelos deben ser tratados con gran respeto a pesar de sus diferencias de opiniones.*	○	○	○	○	○	○	○

Familism Scale	7 Strongly Agree	6 Agree	5 Somewhat Agree	4 Neither agree or disagree	3 Somewhat Disagree	2 Disagree	1 Strongly Disagree
10. A person should often do activities with his or her immediate and extended families, for example, eat meals, play games, or go somewhere together. *Una persona debe hacer actividades frecuentemente con su familia, por ejemplo, comer, jugar y salir juntos.*	○	○	○	○	○	○	○
11. Aging parents should live with their relatives. *Los padres de edad avanzada deben vivir con sus parientes.*	○	○	○	○	○	○	○
12. A person should always be expected to defend his/her family's honor no matter what the cost. *Una persona siempre debe defender el honor de la familia sin importar el costo.*	○	○	○	○	○	○	○
13. Children younger than 18 should give almost all their earnings to their parents. *Los hijos menores de 18 años deben dar gran parte de sus ingresos económicos a sus padres.*	○	○	○	○	○	○	○
14. Children should live with their parents until they get married. *Los hijos deben vivir con sus padres hasta que se casen.*	○	○	○	○	○	○	○
15. Children should obey their parents without question even if they believe they are wrong. *Los hijos deben obedecer a sus padres aun cuando piensen que sus padres están equivocados.*	○	○	○	○	○	○	○
16. A person should help his or her elderly parents in times of need, for example, helping financially or sharing a house. *Una persona debe ayudar a sus padres de edad avanzada cuando están en necesidad, por ejemplo, ayudarlos económicamente o compartir una casa.*	○	○	○	○	○	○	○
17. A person should be a good person for the sake of his or her family. *Una persona debe ser buena por consideración a su familia.*	○	○	○	○	○	○	○
18. A person should respect his or her older brothers and sisters regardless of their differences in views. *Una persona debe respetar a sus hermanos mayores sin importar las diferencias de opiniones.*	○	○	○	○	○	○	○

Steidel, A. & Contreras, J. (2003). "A new familism scale for use with Latino populations." *Hispanic Journal of Behavioral Sciences, 25*(3), p. 312. Doi: 10.1177/0739986303256912.

Appendix F

International Physical Activity Questionnaire (IPAQ)

Think about all the vigorous activities that you did **in the last 7 days**. Vigorous physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think ***only*** about those physical activities that you did for at least 10 minutes at a time.

1. During the **last 7 days**, on how many days did you do **vigorous** physical activity like heavy lifting, digging, aerobics, or fast bicycling?

_____days per week

☐ No vigorous physical activities → ***Skip to question 3***

2. How much time did you usually spend doing **vigorous** physical activities on one of those days?

_____ hours per day

_____ minutes per day

☐ Don't know/Not sure

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

3. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

_____ days per week

☐ No moderate physical activities → ***Skip to question 5***

4. How much time did you usually spend doing **moderate** physical activities on one of those days?

_____ hours per day

_____ minutes per day

☐ Don't know/Not sure

Think about the time you spent **walking** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking that you have done solely for recreation, sport, exercise, or leisure.

5. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time?

_____ days per week

☐ No walking → ***Skip to question 7***

6. How much time did you usually spend **walking** on one of those days?

_____ hours per day

_____ minutes per day

☐ Don't know/Not sure

The last question is about the time you spent **sitting** on weekdays during the **last 7 days**. Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a des, visiting friends, reading, or sitting or lying down to watch television.

7. During the **last 7 days**, how much time did you spend **sitting** on a **week day**?

_____ hours per day

_____ minutes per day

☐ Don't know/Not sure

This is the end of the questionnaire, thank you for participating.

Cuestionario Internacional de Actividad Física

Estamos interesados en saber acerca de la clase de actividad física que la gente hace como parte de su vida diaria. Las preguntas se referirán acerca del tiempo que usted utilizó siendo físicamente activo(a) en los **últimos 7 días**. Por favor responda cada pregunta aún si usted no se considera una persona activa. Por favor piense en aquellas actividades que usted hace como parte del trabajo, en el jardín y en la casa, para ir de un sitio a otro, y en su tiempo libre de descanso, ejercicio o deporte.

Piense acerca de todas aquellas actividades vigorosas que usted realizó en los últimos 7 días. Actividades vigorosas son las que requieren un esfuerzo físico fuerte y le hacen respirar mucho más fuerte que lo normal. Piense solamente en esas actividades que usted hizo por lo menos 10 minutos continuos.

1. Durante los **últimos 7 días**, ¿Cuántos días realizó usted actividades físicas **vigorosas** como levantar objetos pesados, excavar, aeróbicos, o pedalear rápido en bicicleta?

_____ días por semana

☐ Ninguna actividad física vigorosa → ***Pase a la pregunta 3***

2. ¿Cuánto tiempo en total usualmente le tomó realizar actividades físicas **vigorosas** en uno de esos días que las realizó?

_____ horas por día
_____ minutos por día
☐ No sabe/No está seguro(a)

Piense acerca de todas aquellas actividades **moderadas** que usted realizo en los **últimos 7 días** Actividades **moderadas** son aquellas que requieren un esfuerzo físico moderado y le hace respirar algo más fuerte que lo normal. Piense solamente en esas actividades que usted hizo por lo menos 10 minutos continuos**.**

3. Durante los últimos 7 días, ¿Cuántos días hizo usted actividades físicas moderadas tal como cargar objetos livianos, pedalear en bicicleta a paso regular, o jugar dobles de tenis? No incluya caminatas.

_____ días por semana

☐ Ninguna actividad física moderada → ***Pase a la pregunta 5***

4. Usualmente, ¿Cuánto tiempo dedica usted en uno de esos días haciendo actividades físicas moderadas?

_____ horas por día

_____ minutos por día

☐ No sabe/No está seguro(a)

Piense acerca del tiempo que usted dedicó a caminar en **los últimos 7 días**. Esto incluye trabajo en la casa, caminatas para ir de un sitio a otro, o cualquier otra caminata que usted hizo únicamente por recreación, deporte, ejercicio, o placer.

5. Durante los **últimos 7 días**, ¿Cuántos días caminó usted por al menos 10 minutos continuos?

_____ días por semana

☐ No caminó → ***Pase a la pregunta 7***

6. Usualmente, ¿Cuánto tiempo gastó usted en uno de esos días **caminando?**

_____ horas por día

_____ minutos por día

☐ No sabe/No está seguro(a)

La última pregunta se refiere al tiempo que usted permanenció **sentado(a)** en la semana en los **últimos 7 días**. Incluya el tiempo sentado(a) en el trabajo, la casa, estudiando, y en su tiempo libre. Esto puede incluír tiempo sentado(a) en un escritorio, visitando amigos(as), leyendo o permanecer sentado(a) o acostado(a) mirando 60ltura60ión.

7. Durante los **últimos 7 días**, ¿Cuánto tiempo permaneció **sentado(a)** en un **día en la semana? _____ horas por día**

_____ minutos por día

☐ No sabe/No está seguro(a)

Este es el final del cuestionario, gracias por su participación. USA Spanish version translated 3/2003 - SHORT LAST 7 DAYS SELF-ADMINISTERED version of the IPAQ – Revised August 2002

Appendix G

5-Point Helpful Information Likert-like Scale

1- Strongly Disagree	2- Disagree	3- Neither Agree or Disagree	4-Agree	5- Strongly Agree
Totalmente en desacuerdo	En desacuerdo	Ni de acuerdo ni en desacuerdo	De acuerdo	Totalmente de acuerdo
				

☐ Session #1 – Physical activity & Hispanic Health
☐ Session #2 – Physical activity & Diabetes type 2
☐ Session #3 – Physical activity & Obesity
☐ Session #4 – Physical activity & Sedentary Behaviors
☐ Session #5 – Physical activity & Nutrition

March 2018 Valenzuela

Appendix H

Memorandum of Understanding from Saint Alphonsus

Memorandum of Understanding

Memorandum of Understanding

Between

Linda C. Valenzuela, Doctor of Nursing Practice (DNP) student

Boise State University

And

Saint Alphonsus Regional Medical Center

This Memorandum of Understanding (MOU) outlines the terms and understanding between Linda C. Valenzuela, a DNP student at Boise State University, and Saint Alphonsus Regional Medical Center, to pilot an educational intervention scholarly project in coordination with the SARMC Faith Community Nurses. The aim of the project is to increase the physical activity of Hispanic adults to improve type 2 diabetes complications.

Background

Hispanics are twice as likely to be diagnosed with type 2 diabetes compared to non-Hispanic whites (US Office of Minority Health, 2014). Hispanics are disproportionately burdened with the complications associated with the disease (Agency for Healthcare Research and Quality, 2015). Idaho Hispanics make up 12% of the total population and are Idaho's largest minority group. In 2015, the Hispanic population in Ada County is reported as 34,729 (8%) and Canyon County reporting 51,369 (25%) Hispanic (US Census Bureau).

Purpose

The aim of this project is to increase the physical activity of Hispanic adults to improve type 2 diabetes complications. Interventions promoting physical activity, improving self-care and adopting healthy habits will be delivered to the target population via presentation of five educational sessions. The educational sessions will be presented in a community-based, non-healthcare setting by the doctorate of nursing practice (DNP) student in coordination with Saint Alphonsus Faith Community Nurses at their local parishes.

Intended Project Outcomes

- Improved knowledge of the benefits of physical activity in diabetes management.

- Improved understanding of how involving family members in health activities can help promote lifestyle changes.
- Improve knowledge on the importance of reducing screen time to decrease sedentary behaviors.

- Improved knowledge about physical activity's role in decreasing risk factors prevalent in the Hispanic population.
- Improved knowledge of support and health care resources in the community.

Duration

Project recruitment is expected to begin as soon as Boise State University IRB approval is received, which is anticipated May 1, 2018. The implementation phase is planned for May 1, 2018 ending August 31, 2018. The final data analysis and project presentation is anticipated to end March, 2019.

Reporting

The DNP Scholarly Project will conclude March 2019 with a final report and oral presentation of the report to BSU's School of Nursing. The DNP student will submit a Final Project Report for publication in ScholarWorks. ScholarWorks is a collection of services designed to capture and showcase all scholarly output by the Boise State University community, including doctoral dissertations and doctoral project reports. Community presentations to stakeholders and community partners will occur between April and June 2019.

No personal identifiers will be included and all data will be reported in aggregate form. The author welcomes any comments or suggestions from Saint Alphonsus Regional Medical Center and community partners but reserves the right to publish findings and analysis according to professional standards and principles of academic freedom. For any work of a scholarly nature, the author agrees to follow the organization(s) preferences in how it is to be named (or not) in the work.

Student Contact Information

Linda C. Valenzuela, RN Date: February 22, 2018
(*DNP Student signature*)
Linda C. Valenzuela, RN, Boise State University DNP student
lindavalenzuela@u.boisestate.edu

_____ Date:
(*Organizational Contact signature*)
(*Contact Name, Organizational Position, Organization name*)

Jennifer Paleczi 2/26/2018
Director, Mission Integration + Community Health
Saint Alphonsus RMC

Appendix I

General Information/Demographic Form

General Information / *Información General*

Date/Fecha:_____ Zip Code/Codigo Postal:_____

Last Name/Apellido: _____First Name/Primer Nombre:_____MI/ISN:_____

Phone #/Teléfono:_____
City/Cuidad:_____ Age/Edad:_____
Sex/Sexo: M/M F/H

What is your race/ethnicity? (¿Cuál es su raza o grupo étnico?)
• Hispanic/Latino/ Hispano • African American/Black Afro Americano/Negro • Asian/Asiatico
Pacific Islander/de Islas del Pacifico • Native American/ Nativo Americano
• Caucasian/White/ Caucasico/Blanco • Other/Otro (please specify/especifique):
_____

Do you have health insurance? Yes/No Height/Altura: _____Wt/peso: _____BMI: _____
(¿Tiene usted seguro médico?) Si/No

Do you have a doctor whom you see regularly? Yes/No
(¿Tiene usted un doctor que visita regularmente?) Si/No

Where do you **usually** go to receive healthcare when it is not an emergency?_____
(¿A Dónde va usted **usualmente** para recibir atención médica cuando no es una emergencia?)

How often have you been to the Emergency Room in the last 12 months?_____
(¿Cuántas veces a usado la sala de emergencia en los últimos 12 meses?)_____

In the past 12 months, if you did not get the health service you needed, why not?_____
(¿En los últimos 12 meses, si usted no recibió la atención médica que necesitaba, cual fue la razón o razones?)

What is the biggest struggle you face with your health?_____

(¿Cuál es el mayor reto que usted enfrenta sobre su salud?)_____

Do you have Diabetes? Yes/No
(¿Usted tiene Diabetes?) Si/No

Regular Exercise/ejercicio regular: Yes/No Si/No Sometimes /A veces
Alcohol use/Consumo de alcohol: Yes/No Si/No # drinks per week/# de bebidas por semana:_____
Smoke/Fuma?: Yes/No Si/No How much and how Long/ Cantidad y por Cuánto tiempo?_____
Recreational drugs/Consumo de drogas recreacionales Yes/No Si/No

Tell me how diabetes has affected someone in your defined "family".
_____
Dígame cómo la diabetes ha afectado a alguien en su "familia".

Tell me how these educational sessions might be helpful to you.
_____
Dígame cómo estas sesiones educativas podrían ser útiles para usted.

March 2018Valenzuela/DG

Appendix J

Educational Sessions Outline

Educational Sessions Outline

Session #1:	**Topic: Physical Activity & Hispanic Health**
Evidence:	Healthy People 2020's goal for physical activity is to improve health, fitness and quality of life through daily physical activity. The 2008 Physical Activity Guidelines for Americans recommend 150 minutes per week of moderate intensity physical activity, such as walking.
Activity:	□ Exchange of previous experiences: 10 minutes □ Collection of questions: 5 minutes □ Intervention Discussion: 15 minutes □ Sharing Positive News: 5 minutes □Pláticas: "*Mi tia Paula"* – 10 minutes □ Exercising with participants: walking around building/yard 10 minutes
Intervention:	Welcome & International Physical Activity Survey (Outcome #1 & #3).
Session #2:	**Topic: Physical Activity & Diabetes type 2**
Evidence:	Physical activity has many benefits, but for the diabetic it makes it easier to control blood sugar levels and avoid long-term complications. Exercise may keep your heart healthy and strong by helping lower your blood pressure, control your weight, increase your good (HDL) cholesterol including better sleep and stress management. (American Diabetic Association).
Activity:	□ Exchange of previous experiences: 10 minutes □ Collection of questions: 5 minutes □ Intervention Discussion: 15 minutes □ Sharing Positive News: 5 minutes □ Pláticas: "*Mi tia Paula"* – 10 minutes □ Exercising with participants: walking around building/yard 10 minutes
Interventions:	Attitudinal Familism Survey (Outcome #4)
Session #3:	**Topic: Physical Activity & Obesity**
Evidence:	Sedentary behaviors have contributed to obesity as a public health epidemic with 36.5% of the U.S. adult population reported as obese 2011-2014. Hispanic obesity rates are reported as 42.5% for adults with Hispanic women at an increased risk with obesity rates of 45.7% (CDC, 2014).
Activity:	□ Exchange of previous experiences: 10 minutes □ Collection of questions: 5 minutes

	□ Intervention Discussion: 15 minutes □ Sharing Positive News: 5 minutes □ Pláticas: "*Mi tia Paula"* – 10 minutes □ Exercising with participants: walking around building/yard 10 minutes
Interventions:	Overcoming barriers to activity. Every step counts! Evaluations indicate topic is helpful & relevant (Outcome #5).
Session #4:	**Topic: Physical Activity & Sedentary Behaviors**
Evidence:	The increase in television (TV) watching, computer and use of other electronic devices such as iPads or cell phones (screen time) contribute to sedentary activities. Results of a recent study by Madhav, Sherchand and Sherchan (2017) showed that moderate or severe depression level was associated with higher time (>6h/day) spent on TV watching and use of computers. These sedentary behaviors have contributed to obesity as a public health epidemic with 36.5% of the U.S. adult population reported as obese 2011-2014 (CDC, 2014).
Activity:	□ Exchange of previous experiences: 10 minutes □ Collection of questions: 5 minutes □ Intervention Discussion: 15 minutes □ Sharing Positive News: 5 minutes □ Pláticas: "*Mi tia Paula"* – 10 minutes □ Exercising with participants: walking around building/yard 10 minutes
Interventions:	Hispanic participants decrease their screen time. (Outcome #6).
Session #5	**Topic: Physical Activity & Nutrition**
Evidence:	Southwest District Health Department (District 3), reports a higher percentage of overweight adults (72.4%) compared to the statewide percentage of 65.2% (Idaho Behavioral Risk Factors Surveillance System, 2015).
Activity:	□ Exchange of previous experiences: 10 minutes □ Collection of questions: 5 minutes □ Intervention Discussion: 15 minutes □ Sharing Positive News: 5 minutes □ Pláticas: "*Mi tia Paula"* – 10 minutes □ Exercising with participants: walking around building/yard 10 minutes
Interventions:	Recognizing healthy food choices when eating out and at home. 80% of Hispanic participants complete at least 4 out of 5 educational sessions and rate sessions as helpful. (Outcomes #2 & #5).

Appendix K

Mi Tia Paula Letters

Dear Niece, Letter #1

I pray this letter finds you and your family well. Everyone here in San Luis is well. We are all working very hard as usual. My only sadness is my health. I saw the doctor last week and he says my diabetes is getting worse. He wants me to lose weight and start exercising. I told him, he is foolish! I am 68 years old and am too old to exercise or give up my own cooking. You know your Tio would not stand for me not cooking all his favorite meals. You are the nurse in the family and we all respect your opinion. Niece, tell me what do you think I should do? Love to everyone. God bless your momma. I miss her every day.
Tia Paula

(Spanish version of Letter #1):

Querida Sobrina,

Pido que esa carta que tanto usted como su familia se encuentren bien. Todos aquí en San Luis está bien. Todos estamos trabajando muy duro como de costumbre. Mi única tristeza es mi salud. He visto el doctor la semana pasada y dice mi diabetes está empeorando. Él me quiere perder peso y comenzar a hacer ejercicio. ¡Le dije a él, es absurdo! Tengo 68 años, soy demasiado viejo para ejercer o renunciar a mi propia cocina. Tu sabes que tu tío no actuaría para mí no cocinar todas sus comidas favoritas. Eres la enfermera de la familia y todos respetamos tu opinión. ¿Sobrina, deme qué piensas que debo hacer?

Amor a toda la familia. Dios bendiga a tu mamá. Me echas de menos cada día.

Tia Paula

Dear Niece, Letter #2

Thank you for your quick letter back to me. I am going to try and do as you say. Today I took a 10-minute walk to the store for fresh chilies to make your Tio Chili Verde for dinner. My legs hurt so much! Isn't there another way I can exercise that won't hurt so much? Your Tio is not happy. He says why do something if it's going to hurt?

Tia Paula

(Spanish version of Letter #2):
Querida sobrina,

Gracias por su carta rápida vuelta a mí. Voy a tratar de hacer lo que dices. Hoy tomé un paseo de 10 minutos a la tienda para pimientos frescos para hacer su tío chili verde para la cena. ¡Me duelen las piernas mucho! No hay otra manera puedo ejercicios que no duele mucho. Tu tío no está feliz. ¿Dice que por qué hacer algo si va a doler tanto?

Tia Paula

Dear Niece, Letter #3

I think I am feeling better, at least a little. I am doing my house cleaning in the early morning after your Tio goes to work. Then I am going for a walk. My friend Rosa lives two blocks away, across from the park. Remember the park, where your momma and I used to take you and Jose to play? Rosa is babysitting her grandchildren every day. She takes them to the park to run off energy. So, I told her I will come visit with her. Yesterday, for the first time in a long time, I tested my blood sugar. It didn't hurt as much as I expected. The number was more than the doctor told me it should be. He wants my sugar to be below 110. Mine was 265. Niece, what else can I possibly do to get healthier?

Tia Paula

(Spanish version of Letter #3):

Querida sobrina,

Creo que me siento mejor, al menos un poco. Estoy haciendo limpieza en mi casa temprano en la mañana después de tu tío se va a trabajar. A continuación, voy a dar un paseo. Mi amiga Rosa vive a dos cuadras de distancia, cruzando el parque. Recuerdas el parque, donde tu mamá y yo solía tomar tú y José para jugar? Rosa es niñera para sus nietos cada día. Ella los lleva al parque a correr sobre la energía. Así que le dije que yo voy a visitar con ella. Ayer, por primera vez en mucho tiempo, he probado mi nivel de azúcar en la sangre. No duele tanto como yo esperaba. El número fue más que el doctor me dijo que debería ser. Quiere mi azúcar a estar menos de 110. Mia fue de 265. Sobrina, ¿qué más puedo hacer para estar más saludable?

Tia Paula

Dear Niece, Letter #4

Forgive me for not writing sooner. I have been very busy lately. I enjoyed walking to see Rosa so much that I started walking to the grocery store and to the hospital to visits friends that have been sick. I am so happy; my legs are not hurting so much. My blood sugar is getting better now at 172 most days. Your Tio says I am looking pretty good and have lost 8 pounds. Lately, I don't know what to eat. I was eating mostly vegetables, but I get so tired of just vegetables. Niece, what can I eat?

Tia Paula

(Spanish version of Letter #4):

Querida sobrina,

Perdóname por no haber escrito antes. He estado muy ocupada últimamente. He disfrutado de paseos para ver Rosa tanto que empecé a caminar a la tienda de comestibles y al hospital a visitar amigos que han estado enfermos. Estoy tan feliz, mis piernas no duelen tanto. Mi nivel de azúcar en la sangre está mejorando ahora en 172, la mayoría de los días. Tu tío dice que estoy muy bien y he perdido 8 libras. Últimamente, no sé qué comer. Yo estaba comiendo principalmente verduras, pero me siento tan cansada de sólo verduras. Sobrina, ¿qué puedo comer?

Tia Paula

Dear Niece, Letter #5

I wanted to tell you thank you for all your advice. I went to the doctor yesterday and he was very pleased I lost 10 pounds in the last four months. I showed him my blood sugar book you sent me and he was surprised I got my sugars down to 140 most days. I told him I am walking every day and feeling better. I showed him the list of foods you sent me to eat and your suggestions for cooking healthier. He wanted to know if you will come work for him! Ha, I would love to have you here in San Luis with me, but I know your family would miss you! Your Tio was so pleased at how well I have done that he came home with a surprise for me. He got me a beautiful black and white puppy. Tio said I can train him to go for walks with me. Thank you, dear niece for all your help. I am sharing your helpful letters with my friends. I didn't realize how many of them have diabetes like me.

Much love and blessings,

Tia Paula

(Spanish version of Letter #5):

Querida sobrina,

Quería decirte gracias por todos tus consejos. Fui al doctor ayer y estaba muy contento, perdí 10 libras en los últimos cuatro meses. Le mostré mi nivel de azúcar en la sangre en el libro que me mandates y fue sorprendido que mi azúcar esta 140 la mayoría de los días. Le dije que estoy caminando cada día y mi siento mejor. Le mostré la lista de alimentos que me mandates para comer y tus sugerencias para cocinar saludable. ¡Quería saber si tu va a trabajar para él! Ja, me encantaría tener te aquí en San Luis conmigo, ¡pero sé que su familia! Tu tío estaba tan contento al ver lo bien que he hecho que él vino a casa con una sorpresa para mí. Él me consiguió un hermoso cachorro blanco y negro. Tio dice que puedo enseñarle a caminar conmigo. Sobrina, gracias por toda tu ayuda. Estoy compartiendo tu útil cartas con mis amigas. No me di cuenta de cuántas de ellas tienen diabetes como yo.

Mucho amor y bendiciones,

Tia Paula

Created: 2018 L. Valenzuela

Appendix L

Qualitative information from General Registration Form and

Transtheoretical Stages

Participant identifier	**Do you have DM?**	**Regular Exercise?**	**TTM Stage [1]**	**Tell me how Diabetes has affected someone in your defined family.**	**Tell me how these educational sessions might be helpful to you.**
One	Y - Pre-diabetes	Yes	3. Preparation	My mom died because diabetes and my 4 sisters have diabetes.	I am pre-diabetic. I want to improve my life style/health
Two	No	No	1. Pre-contemplative	Family members have lost their vision	Need the information to help our family
Three	No	No	1. Pre-contemplative	Spouses family have diabetes	Am worried my kids will get diabetes-need to learn how to prevent it
Four	Yes	No	1. Pre-contemplative	Affected much with many who have died	It will help prevent and give me more information.
Five	Yes	Yes	3. Preparation	Have family history of diabetes, somehow I am able to do all my activities.	I want to learn more about nutrition.
Six	No	No	1. Pre-contemplative	Some have had their vision affected.	It will help me with information to take care of myself.
Seven	No	Yes	3. Preparation	My father has had stokes (from DM)	It will help me prevent and deal with the disease
Eight	Y- Pre-diabetes	Yes	3. Preparation	Heart problems (from DM)	Need to learn how to eat healthy and exercise
Nine	No	No	1. Pre-contemplative	I have family very advanced.	Share information

[1] Transtheoretical Stages

1. Pre-contemplative (no exercise) - (56%)
2. Contemplative (thinking about it)
3. Preparation (exercising but not regularly) - (44%)
4. Action (regular exercise)
5. Maintenance (regular exercise for last 6 months)

Appendix M

Scholarly Project Timeline

Activity Timeline	Mo/Yr. Fall 2016	Mo/Yr. Spring 2017	Mo/Yr. Summer 2017	Mo/Yr. Fall 2017	Mo/Yr. Spring 2018	Mo/Yr. Summer 2018	Mo/Yr. Fall 2018	Mo/Yr. Spring 2019
Assessment:								
Identification of population and problem, develop search question, conduct literature search								
Exploring informatics and technology for research								
Conduct summary of Evidence, Synthesis of Evidence, Integrative Literature Review								
Develop SWOT analysis and Needs assessment, Re-define project statement and goals								
Update Problem Statement and population for Boise region								
Update Literature search for redefined population and problem statement focused on Boise region								
Update Needs Assessment for Boise region								
Planning & Development								
Develop Logic Model (step 1) with activities, outputs and impacts								
Identify Theory of Change Model								
Identify project Goals and Outcomes, Stakeholders, Community resources and Partnerships, Logic Model components								
Develop Executive Session I Presentation								
Draft Timeline and maintain current								
Update Logic Model for Boise Region								
Expand on Step 1 of Logic Model to include Outcomes								
Complete CITI Training								
Define Evaluation Scope of Scholarly Project								
Research and Select Evaluation Methodology								
Design and Develop Evaluation Criteria								

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Activity Timeline	Mo/Yr. Fall 2016	Mo/Yr. Spring 2017	Mo/Yr. Summer 2017	Mo/Yr. Fall 2017	Mo/Yr. Spring 2018	Mo/Yr. Summer 2018	Mo/Yr. Fall 2018	Mo/Yr. Spring 2019
Develop Lessons Learned Template								
Draft Financial analysis								
Develop presentation to request from community partners financial or "in kind" support								
Develop IRB application and submit for consideration								
Obtain assessment and measurement tool (IPAQ) approval for use								
Schedule appointments with Boise region community partners (Faith-based organizations, Hispanic Community providers, Healthcare Organizations): present SP concept Evaluate level of interest in SP either as recruitment site or educational session site								
Develop and obtain DNP approval of partnership agreements								
Develop draft educational curriculum promoting PA to Hispanic population								
Initial meeting with Spanish literacy specialist to request educational materials and handouts meet low literacy standards								
Develop and design posters and brochures for participant recruitment in English and Spanish								
Present DNP proposal at Executive Session II and obtain approval								

Revise and update SP proposal after Executive Session feedback including outcomes, evaluation tools, materials, and timeline								
Review and Revise Timeline with feedback from faculty mentor								
Review preliminary budget with faculty mentor for feedback								
Follow up and update educational materials based on feedback from Spanish literacy specialist and Community Workgroup								
Revise educational materials based on Community Workgroup feedback								
Meet with FCNs to review handouts and printed materials for feedback								
Budget and plan for purchase of incentives for target population participation								

Budget for food, snacks, coffee for SP educational sessions and plan sequence of food/snack orders or purchases								
Finalize costs/orders for printing, purchases, food, travel								
Intervention & Implementation:								
Confirm dates and settings for educational sessions with FCNs								
Conduct recruitment presentations and begin enrollment of participants								
Begin SP educational group sessions to enrolled participants								

Appendix N

Outcomes Evaluation Table

Outcome	Data Collection Instrument / Data	Analysis Goal	Analytic Technique
1. 30 Hispanic adults completed a face-to-face interview and consented to attend educational sessions by end of May 2018.	**Instrument:** An Informed Consent and a demographic registration form will be completed during a face-to-face semi structured interview before the start of the first educational session. The face-to-face interview design is a general interview guide approach which is more structured than informal conversation. The design includes an interview script to ensure consistency between interviews and consistency in completing the forms. Two open-ended questions will be included on the demographic general registration form to elicit additional qualitative data. The two open-ended questions will allow the participant to express their previous experience or knowledge of diabetes within their identified family structure and promote trust between the participant and the DNP project leader. **Data:** Demographic data will be collected using a registration form designed by the DNP Project leader to collect basic demographic information and the two open-ended questions. The form will be translated by an approved translator into Spanish. The Informed Consent form is the Boise State IRB recommended form. The form is available in English only and will also be translated by an approved Spanish translator. The instruments collect the following information. 1. Demographics 2. Race/Ethnicity 3. Height, Weight, BMI 4. Emergency use (number of visits/12 months) 5. Diabetes (yes/no) 6. Barriers to health care 7. Regular Exercise (yes/no/sometimes) 8. Alcohol, Tobacco, Drug use (yes/no) 9. General Health History Questions 10. Two open-ended (qualitative) questions regarding diabetes previous experience/knowledge:	**Goals:** 1. To quantify the number of participants enrolling in the scholarly project. 2. To obtain demographic registration information specific to the project goals. 3. To obtain baseline numbers for pre- and post-intervention comparison. 4. To obtain information related to the participant experiences, viewpoints and expectations related to physical activity and diabetes. 5. To create a non-threatening and trust atmosphere while conducting a face-to-face interview for the purpose of collection of valuable quantitative and qualitative data.	Descriptive statistics: A simple tracking report used to provide data for determining nominal count and percentage of participants by age, gender, zip code of residence, education, income and family size. Report allows for comparison of recruitment strategies and number of enrollments by location (zip codes) retention rates by age/gender and location and family size.

Outcome	Data Collection Instrument / Data	Analysis Goal	Analytic Technique
	Q1. Tell me how diabetes has affected someone in your defined "family." Q2. Tell me how this class might be helpful to you.		
2. 80% of Hispanic participants completed at least 4 of the five educational sessions by August 2018.	**Instrument:** An attendance sheet will be used for data collection and will include the following data elements. 1. Location of the educational session 2. Start and end time of the educational session 3. Participant name 4. Number of family or friends attending with the enrolled participant. **Data:** The attendance sheets will collect information on the number of registered/enrolled participants who attend each educational site and number of family or guests who are not enrolled but attend with an enrolled participant.	**Goals:** 1. To quantify the number of participants attending each educational class. 2. To quantify the number of family or guests attending with the participant.	Descriptive statistics: Attendance sheets provide numeric data for determining participation at each educational session. Numeric data allows for comparison of actual number of participants enrolled and attending per session and per site location. Number of guests/family members not enrolled but attending each session and per site.
3. 100% of enrolled Hispanic participants completed the Attitudinal Familism Scale by end of June 2018.	**Instrument:** Familism is a core value of the Hispanic culture. The Attitudinal Familism Scale (Steidel & Contreras, 2003) has been used widely to examine the relationship between commitment to family relationships which supersedes attention to self. The instrument is available in both Spanish and English and is the most widely used to determine familism scores among Hispanic populations. **Data:** The AFS is an18-item scale used to measure Familism support, Familism Interconnectedness, Familial Honor, and Subjugation of self for Family (The idea that one should sacrifice one's own needs for the family). The AFS has a Cronbach's alpha of 0.83. Validity analyses with U.S. Latino populations demonstrated that this scale negatively correlates with acculturative status. Responses are given on a 10-point Likert scale ranging from 1 (strongly disagree) to 10 (strongly agree). The higher the score the increased level of attitudinal familism. The wide-range (1–10) Likert scale is used with Hispanics due to this	**Goals:** 1. To obtain information related to the participants relationship between Attitudinal Familism and project participation and retention. 2. To quantify the participants physical activity levels in relationship to their Attitudinal Familism. 3. To present educational material which is culturally relevant and respectful of the	Descriptive statistics: Appropriate charts and graphs will be used to depict the relationship between education sessions and nominal data obtained from the AFS.

Outcome	Data Collection Instrument / Data	Analysis Goal	Analytic Technique
	populations extreme response style, making the AFS very culturally relevant.	participant's level of familism.	
4. 50% of Hispanic participants demonstrated a 25% increase in physical activity (PA) levels after attending five educational sessions as evidenced by pre-to-post-IPAQ tests scores completed, by August 30, 2018.	**Instrument:** A comparison over time pre-then-post design will be used to compare the participants' physical activity levels using the International Physical Activity Questionnaire (IPAQ). The IPAQ will be administered prior to attendance of educational session #1 and post-intervention at completion of all five educational sessions. **Data:** The IPAQ is a seven-question assessment instrument with established reliability and validity, which has been used in studies on physical activity and the Hispanic population. Reliability and validity for the IPAQ has been established in studies conducted in 12 countries for patients with type 2 diabetes. The availability of a Spanish version, simplicity in design allowing for ease of administration, scoring and limited number of questions are all factors related to adoption for use. The domains and activities are culturally relevant to the Hispanic population. The instrument assesses physical activity rates calculated in minutes per week. The IPAQ form asks about three specific types of activity undertaken in four domains. Domains: 1. Leisure time physical activity 2. Domestic and gardening (yard) activity 3. Work-related physical activity 4. Transport-related physical activity Specific types: 1. Walking 2. Moderate-intensity activities 3. Vigorous-intensity activities	**Goals:** 1. To quantify the participant's physical activity levels after attending educational modules focused on the role of physical activity in reducing complications of diabetes and improving health outcomes as defined by Healthy People 2020. 2. To compare means of pre-then-post interventions of participants' knowledge after completion all five modules. 3. To quantify participants knowledge and degree of participation in physical activity prior to and following the educational sessions. To compare pre-then post intervention.	Descriptive statistics: comparison of aggregate mean scores for each of the (IPAQ) 7 test items on the pre-and post-tests following educational intervention. Simplicity of data presentation via matrix tables will enhance presentations to community stakeholders.
5. 80% of Hispanic participants completed evaluations for each educational session attended and rated the interventions as	**Instrument:** Evaluations will be distributed at the end of each educational session. A Likert scale of 1–5 will be designed by the DNP student to allow participants to evaluate each intervention session. **Data**: The instrument measures the participants satisfaction with the educational sessions attended creating a feedback loop between	**Goals:** 1. To quantify participants perceptions and satisfaction of the intervention contents.	Descriptive statistics: Appropriate charts/graphs such as scatter diagrams will be used to depict the relationship between

Outcome	Data Collection Instrument / Data	Analysis Goal	Analytic Technique
helpful on a Likert-type scale of 1–5 by August 2018.	participants and DNP student. Using a feedback loop per session allows for ongoing revision and improvement of subsequent and future educational sessions. The Likert scale will range from *strongly disagree (1) to strongly agree (5).* The tool designed by the DNP student will use colorful graphics to support low literacy and cultural relevance. The tool is selected on simplicity of use, low cost and provides rapid visual information to stakeholders.	2. To obtain feedback from participants for revisions as needed.	educational session and nominal data. Nominal data collected from Likert-type scales will provide measurement of participants satisfaction with the educational intervention.
6. 50% of Hispanic participants decreased their screen time by 25% by August 30, 2018	**Instrument:** A tracking calendar will be distributed to each participant monthly. Participants will be instructed to log on the calendar the minutes per day spent watching TV or using computers, iPads, or another electronic device. **Data:** The tracking calendars will provide minutes per day and per month each enrolled participant spends on screen-time. The tool used (calendar) will be colorful with minimal text and large graphics to support cultural relevance and low literacy.	**Goals:** 1. To quantify the number of minutes per day each participant spends on screen time, which contributes to sedentary behaviors as established by Healthy People 2020. 2. To compare screen-time minutes per day pre-and post-intervention.	Descriptive statistics: Appropriate charts and graphs will be used to depict the relationship between educations session and nominal data.
7. 100% of the Hispanic participants were recruited through coordination with local Faith Community Nurses in the Treasure Valley by June 1, 2018	**Instrument:** A project outline will be created and distributed to Faith Community Nurses at 1:1 meeting providing them with project information. Communication will be logged and follow up occur to ensure a minimum of 2 faith-based nurses are willing to volunteer for the project. **Data:** An Excel spreadsheet will be maintained to track possible nurses interested in volunteering.	**Goals:** 1. To quantify the number of nurses potentially interested in participating in a project involving the Hispanic population. 2. To obtain feedback from Faith Community Nurses regarding the scope of the project. 3. To create a list of Faith Community Nurses who might be interested in	Descriptive statistics: An Excel spreadsheet will allow for data tracking of nurses interested in current or future projects.

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Outcome	Data Collection Instrument / Data	Analysis Goal	Analytic Technique
		serving on a project Advisory Board.	
8. 80% of funding needed was secured from grants or in-kind contributions by May 2018.	**Instrument:** Applications will be completed to request funds or in-kind contributions from local community stakeholders. Funds will be needed for purchase of incentives, project materials, marketing supplies, educational supplies and motivational cards and phone calls. **Data:** An Excel spreadsheet will be maintained to track applications submitted and funding granted.	**Goals:** 1. Securing grant funding or in-kind contributions or donations to secure project feasibility by June 2018. 2. To ensure accurate recordkeeping of program costs for future duplication.	Descriptive statistics: An Excel spreadsheet will allow for data tracking and analysis of funding success or challenges. Specific financial goals will be tracked during Spring 2018 to ensure adequate funding is available for project success.
9. One community Workgroup was formed with a minimum of two community stakeholders focused on providing health services to the Hispanic population in the Treasure Valley by April 2018.	**Instrument:** A Flowchart will be designed and maintained indicating the separate process steps of the Workgroup formation and SP goals. The Flow chart will reflect sequential order with connections outlined between processes and end points. **Data:** The Flow Chart used will help collect and preserve process information in the development of the SP project. Qualitative and quantitative (nominal) data will be collected indicating the number of stakeholders, number of stakeholder meetings, information sessions conducted with potential volunteers or other stakeholders of interest. Qualitative information will be integrated into the flow chart indicating stakeholder's specific area of interest, degree of participation if indicated and itemized list of potential stakeholder contributions (funding, volunteers, health information, space or additional connections). This tool is selected based on simplicity of use, ease in maintaining over time, availability to stakeholders for rapid follow up and flexibility to expand with program growth.	**Goals:** 1. To quantify the number of stakeholders, degree of commitment and perceptions of stakeholders interested in participating in the education component of health care services to local Hispanics. 2. To document workflow process for post program evaluation and revision.	Minutes will be maintained of the Workgroup meetings with applicable information integrated into the Workgroup Flow chart.

Note. Sources: International Physical Activity Questionnaire. (n.d.). Retrieved from https://sites.google.com/site/theipaq/ Steidel, A., & Contreras, J. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences, 25*(3), 312–330. Doi:10.1177/0739986303256912

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Appendix O

Activity and Screen-time Calendars

June/Junio 2018

Calendar/Calendario

On each calendar day write:

- Number of minutes of physical activity, such as walking
- Number of minutes of screen time

En cada día del calendario anote:

- Número de minutos de actividad física como caminar
- Número de minutos de tiempo de la pantalla

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Appendix P

Three-Year Project Budget Plan

Revenues – "In Kind Contributions"	**Budget Year 1**	**Budget Year 2**	**Budget Year 3**	**Actual**
Organizational Contributions				
Spanish Literacy Consultant	$50.00	$75.00	$100.00	**-0-**
Community Meeting Room for Advisory Meetings	$50.00	$75.00	$100.00	**-0-**
Community Meeting Room for Nurses Orientation	$50.00	$75.00	$100.00	**-0-**
Community Meeting Room for SP Group Classes	$100.00	$150.00	$150.00	**-0-**
Participant Incentives	$50.00	$60.00	$75.00	**$125.00**
Category Total	**$300.00**	**$435.00**	**$525.00**	**$125.00**
DNP student contributions				
Administrative Office Supplies	$30.00	$50.00	$50.00	**$72.00**
Administrative Printing	$150.00	$150.00	$150.00	**$58.00**
DNP Student Design of 4 SP Modules	$75.00	$0.00	$0.00	**-0-**
DNP Student Project Manager -SP Group Classes	$400.00	$500.00	$550.00	**-0-**
DNP Gas Cards for 2 FCNs	$40.00	$40.00	$40.00	**-0-**
Category Total	**$695.00**	**$740.00**	**$790.00**	**$130.00**
Revenue "in kind" Total	**$995.00**	**$1175.00**	**$1315.00**	**$255.00**
Expenses - Staff/Personnel Salaries				
Advisory Board	$100.00	$100.00	$100.00	**-0-**
Statistician Consultant	$50.00	$150.00	$150.00	**-0-**
Category Total	**$50.00**	**$250.00**	**$250.00**	**-0-**

Expenses – Food Cost				
Advisory Meeting Food Costs	$96.00	$100.80	$100.80	**$30.00**
SP Classes - Food/Drink Costs	$384.00	$403.20	$423.36	**$147.00**
Category Total	**$480.00**	**$504.00**	**$529.20**	**$ 177.00**
Expenses – Educational Groups				
Printed Materials for SP Classes (includes registration forms, surveys, attendance cards, certificates of completion)	$200.00	$283.50	$297.67	**$142.00**
Printing Cost - Nurses Training Manuals	$70.00	$75.00	$75.00	**23.00**
Presentation Misc. Supplies/Incentives	$300.00	$300.00	$300.00	**$117.00**
Purchased Educational Handouts in Spanish	$125.00	$125.00	$175.00	**$128.00**
Category Total	**$695.00**	**$783.50**	**$847.67**	**$410.00**
Expenses – Marketing & Advertising				
Advertisement Flyers & Banners	$160.00	$160.00	$200.00	**$22.00**
Category Total	**$160.00**	**$160.00**	**$200.00**	**$22.00**
Projected Program Cost	**$1385.00**	**$1697.50**	**$1826.87**	**$609.00**
Revenue “in kind” Total	**$995.00**	**$1175.00**	**$1315.00**	**$255.00**
Total Projected Total Program Cost	**$390.00**	**$522.50**	**$511.87**	**$354.00**

Appendix Q

Statement of Operations

Statement of Operations	
Revenues	
In-kind contributions: Salaries, facilities, office supplies, food costs	
	Total $995.00
Expenses	
Advisory Board	100.00
Statistician Evaluation Consultant 50.00	
Spanish Literacy Consultant 50.00	
Management & Operations 695.00 Marketing & Advertising 100.00	
	Total $995.00
Operating Income	$ 0

Appendix R

Recruitment & Retention –Participant Flow

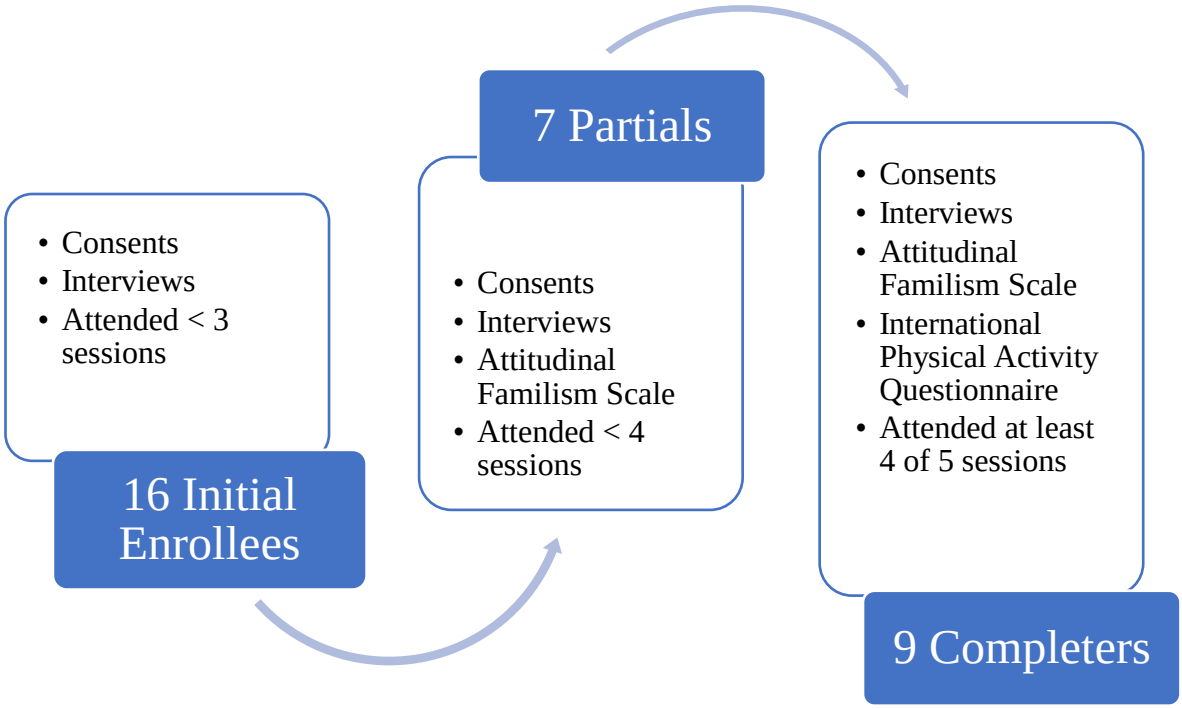


Figure 1. Recruitment process showing number of initial enrollees, number of partial enrollees and the final number of individuals who attended all five educational sessions, the Completers.

Appendix S

Completers' Likert Results

	1- Strongly Disagree Totalmente en desacuerdo	2- Disagree En desacuerdo	3- Neither Agree or Disagree Ni de acuerdo ni en desacuerdo	4- Agree De acuerdo	5- Strongly Agree Totalmente en acuerdo
Session #1 – Physical activity & Hispanic Health					**9**
Session #2 – Physical activity & Diabetes type 2					**9**
Session #3 – Physical activity & Obesity					**9**
Session #4 – Physical activity & Sedentary Behaviors					**9**
Session #5 – Physical activity & Nutrition					**9**

Figure 2. Completers' score of each of the five educational sessions indicating their satisfaction with the material presented.

Appendix T

Completers' Attitudinal Familism Results

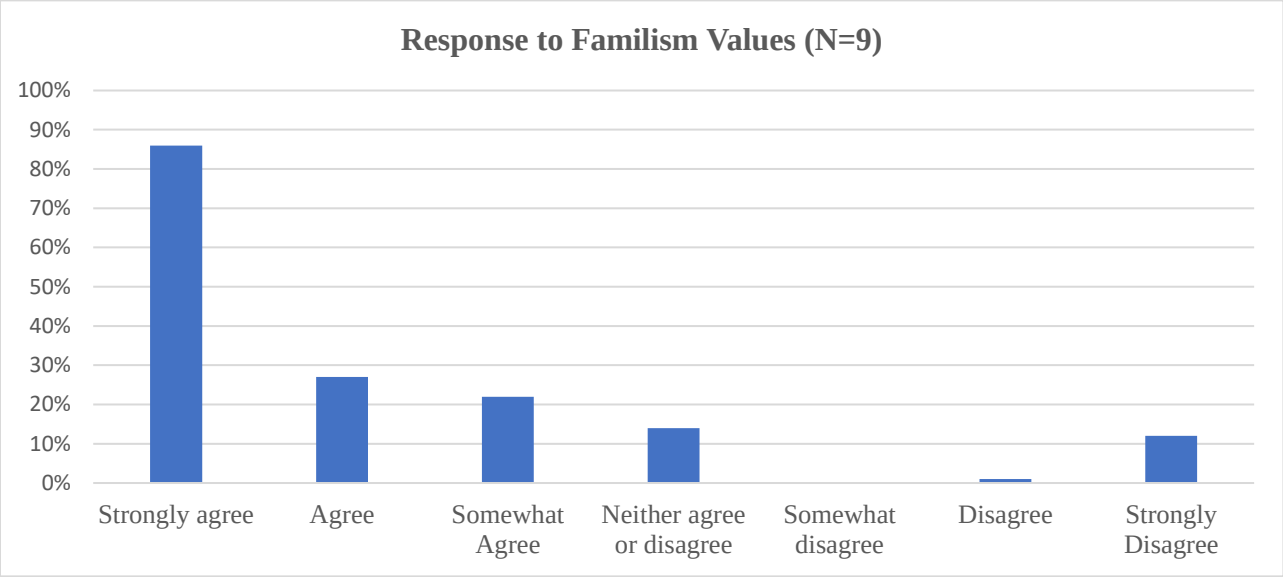


Figure 3. Completers' responses from the AFS indicating 87% of them strongly agree with the core value of familism, which means the Completer will place the needs of their family above their own. Adapted from Steidel, A., & Contreras, J. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences, 25*(3), 312–330. Doi: 10.1177/0739986303256912.

Appendix U

CITI Training

CITI PROGRAM

Completion Date 19-Mar-2018
Expiration Date 18-Mar-2021
Record ID 26425456

This is to certify that:

Linda Valenzuela

Has completed the following CITI Program course:

Human Research (Curriculum Group)
Social & Behavioral Researchers (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Boise State University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wa87a0551-ee0a-47ae-974a-1a383c4710e3-26425456

Appendix V

IRB Approval Letter

BOISE STATE UNIVERSITY
RESEARCH AND ECONOMIC DEVELOPMENT
Research Compliance

Date: March 19, 2018

To: Linda Valenzuela cc: Pam Gehrke

From: Social & Behavioral Insitutional Review Board (SB-IRB)
c/o Office of Research Compliance (ORC)

Subject: SB-IRB Notification of Approval - Original - 187-SB18-059
Increasing Physical Activity of Hispanic adults to decrease complications of Diabetes type 2

The Boise State University IRB has approved your protocol submission. Your protocol is in compliance with this institution's Federal Wide Assurance (#0000097) and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Protocol Number:	**187-SB18-059**	Received:	2/28/2018	Review:	Expedited
Expires:	**3/18/2019**	Approved:	3/19/2018	Category:	7

Your approved protocol is effective until 3/18/2019. To remain open, your protocol must be renewed on an annual basis and cannot be renewed beyond 3/18/2021. For the activities to continue beyond 3/18/2021, a new protocol application must be submitted.

ORC will notify you of the protocol's upcoming expiration roughly 30 days prior to 3/18/2019. You, as the PI, have the primary responsibility to ensure any forms are submitted in a timely manner for the approved activities to continue. If the protocol is not renewed before 3/18/2019, the protocol will be closed. If you wish to continue the activities after the protocol is closed, you must submit a new protocol application for SB-IRB review and approval.

You must notify the SB-IRB of any changes to your approved protocol and the committee must review and approve these changes prior to their commencement. You should also notify the committee if your activities are complete or discontinued.

Current forms are available on the ORC website at http://goo.gl/D2FYTV

Please direct any questions or concerns to ORC at 426-5401 or humansubjects@boisestate.edu.

Thank you and good luck with your research.

Appendix W

Recruitment Script

RECRUITMENT SCRIPT

On the phone or face to face:

"Hello, my name is Linda Valenzuela. I am a registered nurse and a graduate student at Boise State University. I am conducting a project about increasing physical activity of Hispanic adults to reduce the complications of diabetes. I would like to ask if you would be willing to let me interview you. It should take about 30 minutes to complete the interview.

If you would be interested in participating in this interview, we can set up a time now or you can let me know when a good time would be to schedule it. I can come to your home or I can meet you at your church."

If interested, investigator will set up date and time and will provide subject with investigator contact information. "I have you scheduled for an interview on _____. If you have questions, I can be reached at, phone #, lindavalenzuela@u.boisestate.edu. Thank you for your help.

If not interested, investigator will end the call: "Thank you for your time."

Spanish Version:

"Hola mi nombre es Linda Valenzuela yo soy una enfermera y soy una estudiante de posgrado en la universidad estatal de Boise. Estoy realizando un proyecto de mejora de la calidad sobre el aumento de la actividad física de los hispanos adultos para reducir las complicaciones de la diabetes. Me gustaría preguntarle si estaría dispuesta a permitirme entrevistarte. Se debe tomar aproximadamente 30 minutos para realizar la entrevista.

Si usted estaría interesado en participar en esta entrevista, podemos establecer un tiempo ahora o puede permitirme saber cuándo sería un buen momento para programar. Puedo venir a su casa o puedo encontrarme con usted en su iglesia."

Si está interesado, investigador configurar fecha y hora y proporcionará sujeto investigador con información de contacto. "Me has programado para una entrevista en _____. Si usted tiene preguntas, puedo ser alcanzado a numero o lindavalenzuela@u.boisestate.edu. Gracias por su ayuda."

Si no está interesado, el investigador terminará la llamada: "Gracias por su tiempo".

Appendix W

Recruitment Flyer—English

BOISE STATE UNIVERSITY

VOLUNTEERS WANTED
FOR A QUALITY IMPROVEMENT PROJECT

Increasing the Physical Activity of Hispanic Adults
to reduce Diabetes type 2 complications

Are you over the age of 18 and self-identify as Hispanic or Latino? We are conducting a project about Hispanic adults and physical activity and could use your input and participation! Hispanics are twice as likely to be diagnosed with type 2 diabetes compared to non-Hispanic whites. They are also disproportionally burdened with the complications associated with the disease.

The project will last for a 3 month-period. If you agree to be in this study you will be asked to attend five educational sessions about why physical activity is important to Hispanics. Each educational session will take about 45 minutes and can be conducted in the privacy of your home or at your church. This project is family-centered and your family's attendance or questions are welcomed.

Risks: The survey will include a section requesting demographic information. However, every effort is made to protect participants' confidentiality. You may leave any question blank if you are not comfortable.
Benefits: Adopting a regular physical activity routine and recognizing the importance of decreasing sedentary behaviors such as screen time will help improve the health outcomes of Hispanics and promote healthy families in our community.

This research is conducted under the direction of Dr. Pamela Gehrke, BSU School of Nursing. (IRB #187-SB18-059)

Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #

BOISE STATE UNIVERSITY

SE BUSCAN VOLUNTARIOS UN PROYECTO DE MEJORAR LA CALIDAD DE VIDA

Aumenta la actividad física de los adultos hispanos para reducir complicaciones de diabetes tipo 2

¿Tiene más de 18 años de edad y se identifica a sí mismo como hispano o latino? ¡Estamos realizando un proyecto sobre los adultos hispanos y actividad física, apreciaríamos su participación! Los hispanos son dos veces más propensos a ser diagnosticados con diabetes tipo 2 en comparación a los blancos no-hispanos. También son desproporcionadamente agobiados con las complicaciones asociadas con la enfermedad.

El proyecto durará un período de tres meses. Si usted acepta estar en este estudio, se le pedirá que asista a cinco sesiones educativas acerca de la importancia de actividad física para los hispanos. Cada sesión educativa durará unos 45 minutos y pueden realizarse en la privacidad de su casa o iglesia. Este proyecto está centrado en la familia y la asistencia o preguntas de su familia son bienvenidas.

Riesgos: El estudio incluirá una sección solicitando información demográfica. Sin embargo, se hacen todos los esfuerzos posibles para proteger la confidencialidad de los participantes. Puede dejar cualquier pregunta en blanco si usted no se siente cómodo respondiéndolas.
Beneficios: Implementar una rutina de actividad física regular y reconociendo la importancia de disminuir los comportamientos sedentarios como pasar tiempo enfrente de una pantalla ayudará a mejorar los resultados de salud de los hispanos y promover la salud de las familias en nuestra comunidad.

Esta investigación se llevó a cabo bajo la dirección del Dr. Pamela Gehrke, BSU Escuela de Enfermería. (IRB número: #187-SB18-059)

Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #	Linda Valenzuela, RN Phone #

Appendix X

Informed Consent—English

BOISE STATE UNIVERSITY

INFORMED CONSENT

Study Title: Increasing the Physical Activity of Hispanic Adults to Reduce Diabetes type 2 complications
Principal Investigator: Linda Valenzuela, RN **Co-Investigator:** Dr. Pamela Gehrke
Sponsor: Saint Alphonsus Regional Medical Center Faith Nurses

This consent form will give you the information you will need to understand why this quality improvement project is being done and why you are being invited to participate. It will also describe what you will need to do to participate as well as any known risks, inconveniences or discomforts that you may have while participating. We encourage you to ask questions at any time. If you decide to participate, you will be asked to sign this form and it will be a record of your agreement to participate. You will be given a copy of this form to keep.

- **PURPOSE AND BACKGROUND**

The purpose of this project is to increase the physical activity of Hispanic adults to reduce diabetes type 2 complications. You are being asked to participate because you self-identify as a Hispanic adult over the age of 18.

- **PROCEDURES**

If you agree to be in this study, you will be asked to attend five educational sessions explaining why physical activity is important to Hispanic adults to reduce the complications of diabetes type 2: each educational session will take about 45 minutes. At this first visit and all other visits you are welcome to have any family members of your choosing attend. This project is family-centered and your family's attendance or questions are welcomed.

The first session is conducted in the privacy of your home or at your church in a private room. At the first session you will complete the following:

- One 15-minute survey about your current level of physical activity.
- One 15-minute survey about your beliefs about familism.
- One initial 30-minute interview.

The remaining four sessions will be completed over a three-month period, at your home or church, whichever you prefer. This will be decided by you at our first interview session. Four new healthy lifestyle habits will be introduced to you at each session. They will involve

you tracking on a monthly calendar your physical activities and your screen time. Each time we meet you will turn in your calendar to the principal investigator. At the fourth session, a repeat survey on your physical activity level will be completed by you.

If you are interested in participating in this project we will set up an interview time and location. You will first complete the survey and then participate in the interview for a total of 45 minutes of participation.

- **RISKS**

The survey will include a section requesting demographic information. Due to the make-up of Idaho's population, the combined answers to these questions may make an individual person identifiable. We will make every effort to protect participants' confidentiality. However, if you are uncomfortable answering any of these questions, you may leave them blank.

In the unlikely event that some of the survey or interview questions make you uncomfortable or upset, you are always free to decline to answer or to stop your participation at any time. Should you feel discomfort after participating or feel you would like to discuss the project further you may reach the principal investigator, Linda Valenzuela at phone # or seek further care at any health care resource of your choice including calling 911.

- **BENEFITS**

Hispanics are twice as likely to be diagnosed with type 2 diabetes compared to non-Hispanic whites. They are also disproportionately burdened with the complications associated with the disease. Adopting a regular physical activity into daily routines and recognizing the importance of decreasing sedentary behaviors such as screen time will help improve the health outcomes of Hispanic individuals and promote healthy families within our community.

- **EXTENT OF CONFIDENTIALITY**

Reasonable efforts will be made to keep the personal information in your research record private and confidential. Any identifiable information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. The members of the project team, and the Boise State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.

Your name will not be used in any written reports or publications which result from this research. Data will be kept for three years (per federal regulations) after the study is complete and then destroyed.

- **PAYMENT**

Each month a $25.00 gift card to Walmart will be given to the individual with the highest level of physical activity on their monthly log. In addition, each month when you submit your monthly activity and screen time log you will be given a raffle ticket for a prize which will be raffled off at the end of the 3-month project.

- **PARTICIPATION IS VOLUNTARY**

You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time without consequences of any kind or loss of benefits to which you are otherwise entitled.

- **QUESTIONS**

If you have any questions or concerns about your participation in this study, you may contact the Principal Investigator, Linda Valenzuela: Phone # or lindavalenzuela@u.boisestate.edu.

If you have questions about your rights as a research participant, you may contact the Boise State University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. You may reach the board office between 8:00 AM and 5:00 PM, Monday through Friday, by calling (208) 426–5401 or by writing: Institutional Review Board, Office of Research Compliance, Boise State University, 1910 University Dr., Boise, ID 83725–1138.

DOCUMENTATION OF CONSENT

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible risks have been explained to my satisfaction. I understand I can withdraw at any time.

Printed Name of Study Participant	**Signature** of Study Participant	Date

Signature of Person Obtaining Consent	Date

Informed Consent—Spanish

BOISE STATE UNIVERSITY

CONSENTIMIENTO INFORMADO

Título del Estudio: Aumentar la actividad física de los adultos hispanos para reducir complicaciones de diabetes tipo 2
Investigador Principal: Linda Valenzuela, RN Co-Investigator: Dr. Pamela Gehrke
Patrocinador: Centro Médico Regional de San Alfonso - Enfermeras de Fe

Este formulario de consentimiento le dará la información que necesita para entender por qué este proyecto de mejoría de la calidad de vida se está llevando a cabo y por qué están invitados a participar. También describe lo que debe hacer para participar, así como cualquier riesgo conocido, inconvenientes o molestias que pueden tener mientras participa. Lo animamos a hacer preguntas en cualquier momento. Si decide participar, se le pedirá que firme este formulario como registro de su acuerdo. Se le dará una copia de este formulario.

- **PROPÓSITO Y ANTECEDENTES**

El propósito de este proyecto es aumentar la actividad física de los adultos hispanos para reducir complicaciones de diabetes tipo 2. Se le ha pedido participar porque usted se identifica a sí mismo como hispano, adulto, mayor de 18 años de edad.

- **PROCEDIMIENTOS**

Si usted acepta estar en este estudio, se le pide que asista a cinco sesiones educativas que explican por qué la actividad física es importante para adultos hispanos para reducir las complicaciones de la diabetes tipo 2: Cada sesión educativa, tardará alrededor de 45 minutos. En esta primera visita y todas las demás es bienvenido a invitar a otros miembros de la familia. Este proyecto está centrado en la familia y la presencia de su familia o cualquier preguntas que ellos tengan son bienvenidas.

La primera reunión se lleva a cabo en la privacidad de su casa o en un lugar privado de su iglesia. En la primera sesión se lleva a cabo las siguientes acciones:

- Una encuesta de 15 minutos sobre su nivel de actividad física actual.
- Una encuesta de 15 minutos acerca de sus creencias sobre la familia.
- Una entrevista inicial de 30 minutos.

Las restantes cuatro sesiones serán completadas en un período de tres meses, en su casa o en la iglesia, lo que usted prefiera. Esto será decidido por usted en nuestra primera sesión de entrevista. Cuatro nuevos hábitos saludables se le introducirán en cada sesión. Estos hábitos implicarán el seguimiento de sus actividades físicas y el tiempo que pasa enfrente de una pantalla de televisión utilizando un calendario mensual. Cada vez que nos reunamos usted

entregará su calendario al investigador principal. En la cuarta sesión, la misma encuesta inicial sobre su nivel de actividad física será completada por segunda vez.

Si usted está interesado en participar en este proyecto se establecerá la hora y ubicación de la entrevista. Primero debe completar la encuesta y luego participar en la entrevista por un total de 45 minutos de participación.

- **RIESGOS**

El estudio incluirá una sección solicitando información demográfica. Debido a la composición de la población de Idaho, la combinación de las respuestas a estas preguntas puede hacer a una persona, identificable. Haremos todo lo posible para proteger la confidencialidad de los participantes. Sin embargo, si usted se siente incómodo respondiendo alguna de estas preguntas, usted puede dejarlas en blanco.

En el probable caso de que algunas de las preguntas de la entrevista o encuesta le hagan sentirse incómodo o molesto, usted es siempre libre de rechazar a responder o de parar su participación en cualquier momento. Si usted siente alguna molestia después de participar o siente que le gustaría discutir el proyecto a más profundidad, usted puede contactar al investigador principal, Linda Valenzuela al numero o buscar más atención en cualquier recurso de atención de salud de su elección incluyendo llamando al 911.

- **BENEFICIOS**

Los hispanos son dos veces más propensos a ser diagnosticados con diabetes tipo 2 a comparación de blancos no-hispanos. También sufren con las complicaciones asociadas con la enfermedad de una manera desproporcionada. Implementar la actividad física regularmente en su rutina diaria y reconocer la importancia de disminuir los comportamientos sedentarios como pasar tiempo frente al computador o Tv., ayudará a mejorar los resultados de salud de hispanos y promover familias sanas dentro de nuestra comunidad.

- **GRADO DE CONFIDENCIALIDAD**

Se harán esfuerzos razonables para mantener la información personal de su registro de investigación privada y confidencial. Cualquier información identificable obtenida en relación con este estudio permanecerá confidencial y será revelada solamente con su permiso o por exigencia legal. Los miembros del equipo del proyecto, y la Oficina de Investigación y Cumplimiento de la universidad de Boise State (ORC) pueden acceder a los datos. El ORC monitoriza los estudios de investigación para proteger los derechos y el bienestar de los participantes en la investigación.

Su nombre no será utilizado en ningún informe escrito o publicaciones que resulten de esta investigación. Los datos se conservarán por tres años (por regulaciones federales) después de que se haya completado el estudio y luego destruidos.

- **PAGO**

Cada mes una tarjeta de regalo de Walmart, de $25.00 se dará a la persona con el mayor nivel de actividad física en su registro mensual. Además, cada mes cuando usted someta su

actividad mensual y registro de tiempo frente al computador o Tv., se le dará un boleto de rifa de un premio que será sorteado al final de los 3 meses del proyecto.

- **LA PARTICIPACIÓN ES VOLUNTARIA**

No tiene que estar en este estudio si no quiere. También puede negarse a contestar cualquier pregunta que usted no desea responder. Si participa voluntariamente para estar en este estudio, puede retirarse en cualquier momento sin consecuencias de ningún tipo, o sin pérdida de beneficios de los cuales usted ya tiene derecho a tener como tal.

- **PREGUNTAS**

Si usted tiene preguntas o preocupaciones acerca de su participación en este estudio, puede ponerse en contacto con el Investigador Principal, Linda Valenzuela: telephono o lindavalenzuela@u.boisestate.edu.

Si usted tiene preguntas acerca de sus derechos como participante de la investigación, puede ponerse en contacto con la junta de repaso institucional de la universidad estatal de Boise (Institutional Review Board, IRB), que se enfoca en la protección de los voluntarios en proyectos de investigación. Usted puede ir a la oficina de la junta entre las 8:00 AM y 5:00 P.M., de lunes a viernes, llamando al (208) 426–5401 o escribiendo a: Junta de Revisión Institucional, la Oficina de cumplimiento para investigaciones, Boise State University, 1910 Universidad Dr., Boise, Idaho 83725–1138.

Documentación del consentimiento

He leído este formulario y decidí participar en el proyecto descrito anteriormente. Sus objetivos generales, los pormenores de la participación y los posibles riesgos se han explicado a mi satisfacción. Entiendo que me puedo retirar en cualquier momento.

Imprime el nombre del participante del estudio	Firma del Participante	Fecha

Firma de la persona que recibe el Consentimiento	Fecha

Appendix Y

St Mary's Approval Letter

St. Mary's Catholic Church
2612 W. State St., Boise, ID 83702
Phone: (208) 344-2597 Fax: (208) 344-9337

February 18, 2018

Boise State University
Institutional Review Board
1910 University Drive
Boise, ID 83725

Re: Project – "Increasing the Physical Activity of Hispanics to reduce type 2 Diabetes complications"

To Whom It May Concern:

The purpose of this letter is to confirm, Linda Valenzuela, RN, has permission to use St. Mary's Catholic Church in Boise, Idaho as one of her project sites for the Doctor of Nursing Program at Boise State University. Her project, "Increasing the Physical Activity of Hispanics to reduce type 2 Diabetes complications" will be presented to Hispanic parishioners over 18 years old who wish to attend the five educational sessions presented between June and September 2018.

If you have any questions, we can be reached at (208) 344-2597.

Sincerely,

Fr. John R. Worster, Pastor

Appendix Z

St Paul's Approval Letter

St. Paul's
CATHOLIC CHURCH AND SCHOOL

Saint Paul's Catholic Church
Iglesia Católica de San Pablo

St. Joseph's Catholic Church, Melba
Our Lady Queen of Heaven Chapel, Oreana
Our Lady of Tears Chapel, Silver City

March 12, 2018

Boise State University
Institutional Review Board
1910 University Dr.
Boise, ID 83725

Re: Project-"Increasing the Physical Activity of Hispanics to reduce type 2 Diabetes complications:

To Whom it May Concern:

The purpose of this letter is to confirm, Linda Valenzuela, RN, has permission to use St. Paul's Catholic Church in Nampa, Idaho as her project site for the Doctor of Nursing Program at Boise State University. Her project "Increasing the Physical Activity of Hispanics to reduce type 2 Diabetes complications will be offered to Hispanic parishioners over 18 years old who wish to volunteer and attend the educational sessions presented between June and September 2018.

If you have any questions, we can be reached at (208)466-7031.

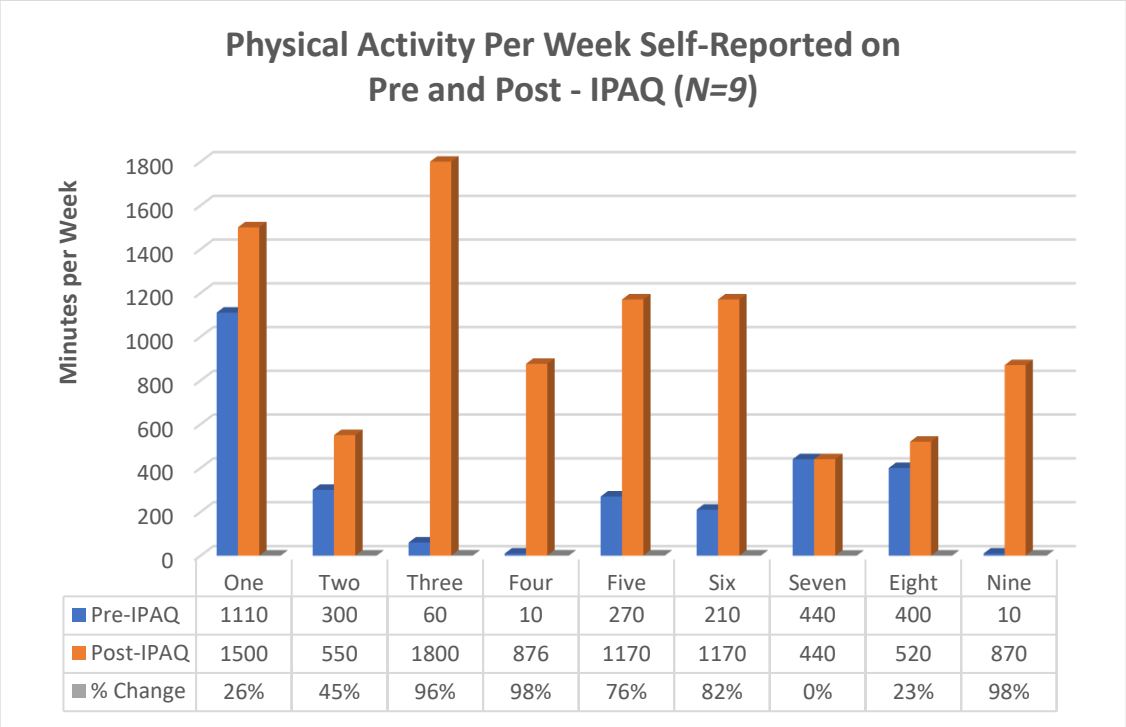
Sincerely,

Fr. Caleb Vogel
Pastor

1515 8th Street South · Nampa, Idaho 83651-4703 · (208) 466-7031 · Fax (208) 466-7203

Appendix AA

Completers' Physical Activity in Minutes per Week



	One	Two	Three	Four	Five	Six	Seven	Eight	Nine
Pre-IPAQ	1110	300	60	10	270	210	440	400	10
Post-IPAQ	1500	550	1800	876	1170	1170	440	520	870
% Change	26%	45%	96%	98%	76%	82%	0%	23%	98%

Figure 4. The number of minutes per week each of the Completers' Results indicate 89% (*n=8)* of the participants increased their participation in physical activity. 100% of the participants met the 150 minutes/week of engaging in a moderate intensity activity.

Appendix BB

Completers' Report of Sedentary Activity

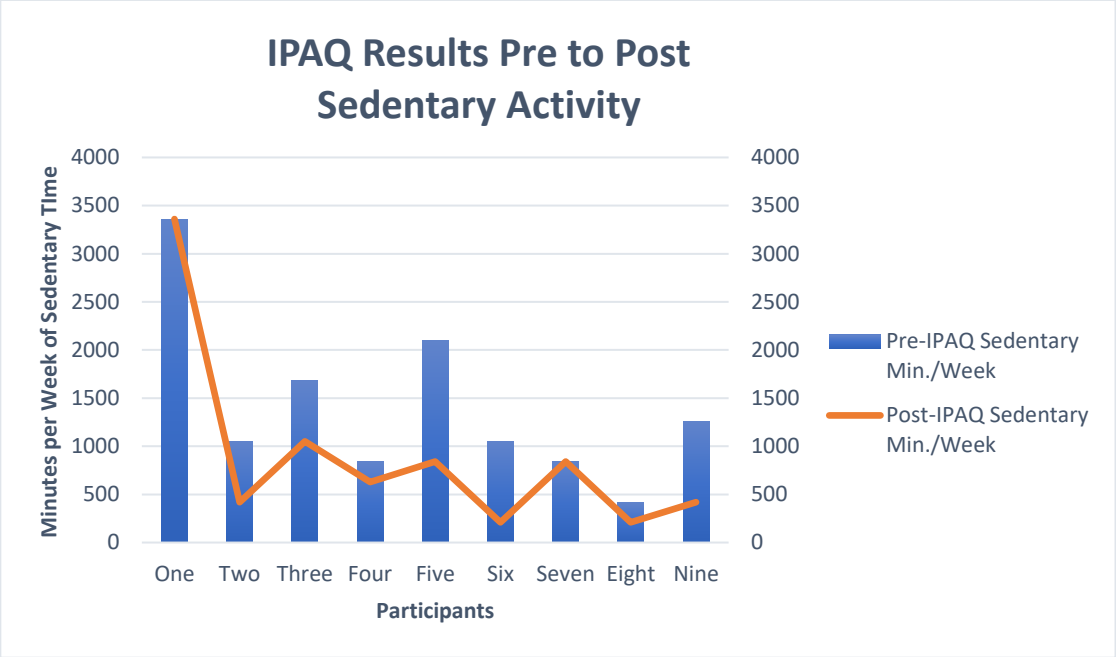


Figure 5. Seven of the nine participants (78%) reported a decrease in the number of minutes per week of sedentary activity. Two of the participants reported zero change (participant 1 & 7).

Appendix CC

Completers' Type of Physical Activity

and Number of Hours of Activity

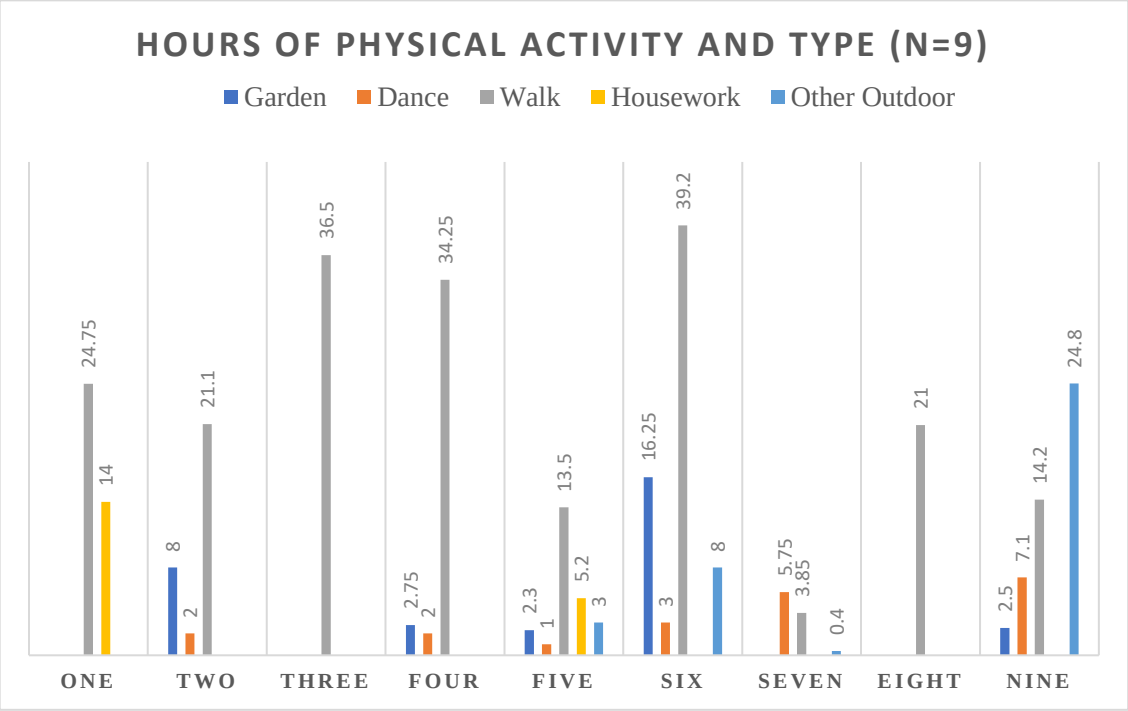


Figure 6. Types of Physical Activity and actual total hours of activity Completers (*N=9*) engaged in over the five-week project period based on paper/pencil tracking tool.

Appendix DD

Completers' Comparison of Moderate

Intensity Physical Activity

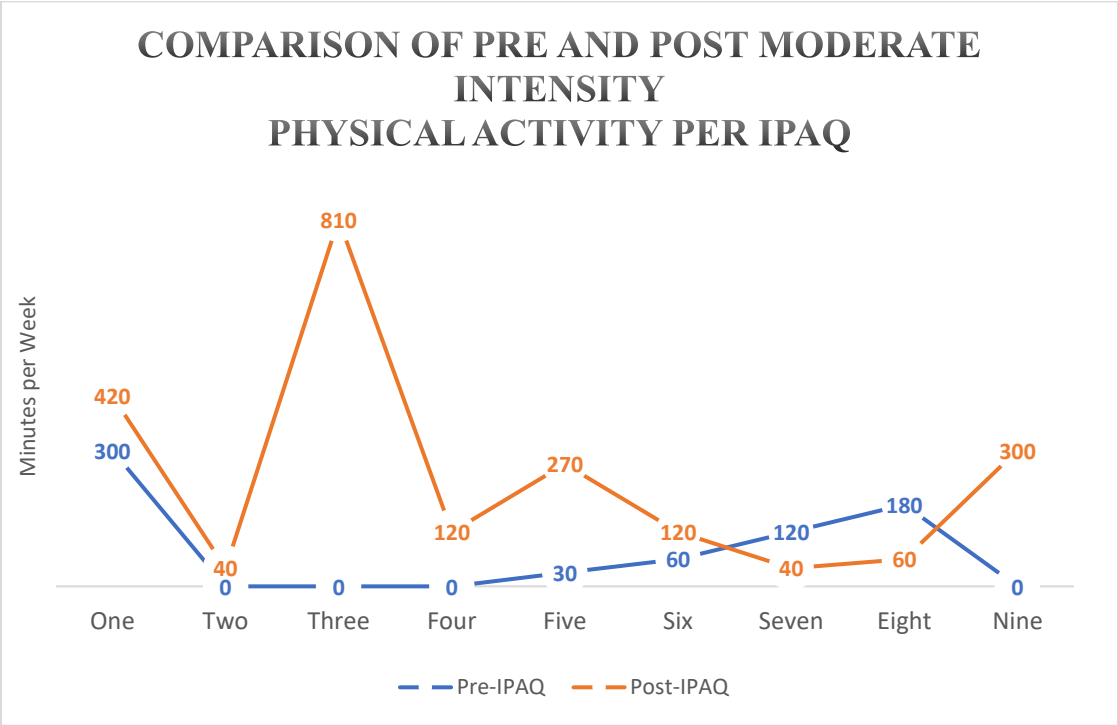


Figure 7. Comparison of the Completers (*N*=9) moderate intensity physical activity as self-reported on pre and post IPAQ survey. Data indicates 78% of participants increased their participation in moderately intense physical activity from start to end of project. Two participants (#7 & #8) decreased their minutes per week of moderately intense activity.