Maintaining Hózhó:

Perceptions of Physical Activity, Physical Education and Healthy Living Among Navajo High School Students

by

Rachelle Geri Jones

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Graduate Supervisory Committee:

Pamela Hodges Kulinna, Chair
Hans van der Mars
Mary Eunice Romero-Little

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ABSTRACT

Native American populations have higher obesity and diabetes rates overall in the U.S. Percentages of obesity among Native American children were 11-25% higher than the national average. Among Navajo, cultural lifestyles changes have led to less physical activity and obesity problems with youth more disassociated from traditional Navajo living, culture, beliefs, language and religion. They were at highest risk for Type II diabetes among ethnic groups due to less physically activity, increased weight gain and obesity.

This study had dual purposes: Part one of this study was to examined the perceptions of physical activity, physical education and living healthy lifestyles of Navajo adolescents, physical educators, a Navajo culture teacher, a Diné studies teacher and a community member. Part two of this study examined the physical activity patterns of Navajo adolescent students. To gain their perspectives, eight Navajo students (9-12 grades), two physical educators, two classroom teachers and one community member were recruited and interviewed individually for 60-minutes. Secondly, pedometers were used to assess the students' physical activity levels during the school day and 24-hour increments.

Results of the part one study indicated important aspects of physical activity by Navajo adolescents, physical education teachers, classroom teachers and a community member were cultural identity, family involvement, and structure of family/extended family. Navajo respondents participated in traditional form of running in the morning, a practice performed by parents and/or extended family. Physical activity was described as active involvement of the *body*, *movement*, physical fitness, and sport related interests.

Stakeholders described physical activity and healthy living as culturally driven beliefs and learning based on Navajo way of life.

Findings of part two study indicated that boys were significantly more physically active on weekday than girls $t(32)=2.04$, $p=<.05$. Weekday step counts for boys indicated (M=11,078, SD= 4,399) and for girls (M=7,567, SD=5,613). Girls were significantly more active on weekend $t(27)=2.30$,$p=.03$. Weekend step counts indicated boys and girls accumulated (M=6493, SD=5650) and (M=7589, SD=5614) steps. Physical education step counts showed minimal differences between boys (M=2203, SD=918) and girls (M=1939, SD=889) step counts. Overall results indicate that Navajo adolescents did not meet daily physical activity recommendations.

DEDICATION

To my beloved sister, Kandy Goodluck-Jones, (June 12, 1964-March 8, 2015), who inspired me with her unconditional love, compassionate heart and her enduring will to never give up and *to finish what you've started*. I love you and miss you dearly, my sweet sister.

Shikee biyá ních'i doo,

Shijáád biyá ních'i doo,

Sits'íís biyá ních'i doo,

Shíni' biyá ních'i doo,

Shinéé' biyá ních'i doo.

~ M. Field and T. Blackhorse, 2002

Są'ah naagháí bik'eh hózhóón nishłįįgo naasháa doo

Są'ah naagháí bik'eh hózhóón nishłįįgo naasháa doo ...

Tádídíín ashkii nishłįįgo naasháa doo

Anił t'ánii at'ééd nishłǫǫ naasháa doo ...

Níłtsą biką' t'áá shee naałtingo naasháa doo

Níłtsą bi'áád t'áá shee naałtingo naasháa doo

Hózhǫǫgo naasháa doo

Hózhǫǫgo naasháa doo

Hózhǫǫ naasháa doo

Hózhǫǫ naasháa doo

~ R.L. Jim 2000

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CHAPTER 1

INTRODUCTION

The health of Indigenous people throughout the world was reported as poor with many suffering from numerous health ailments (World Health Organization, 2001). Navajo people are not immune to this epidemic that is associated with continued lack of physical activity and overweight/obesity. Negative health trends continued to affect the health and wellness of Navajo people and youth, thereby, affecting the future lives of an enduring people who experience differences in cultural loss, language and traditional practices. Another trend was the decline of physical activity and the trend of physical inactivity during youth age will likely continue into adult life (Sallis, Prochaska, & Taylor, 2000).

Traditionally, Navajo people live according to the Navajo philosophy of Hózhó and according to the precepts that guide their existence, belonging and values. Physical activity played a dominant role in the daily living patterns of Navajo life, ceremony and religion. Life changes that have occurred continue to occur in daily living patterns of the Navajo people and children. Technology, running water, methods of transportation, and dietary means were prominent examples that influenced cultural changes in Navajo communities.

To understand the reasons behind cultural change it was important to first understand the worldview of Navajo people. The Navajo known as the Diné described themselves as enduring people who persist to survive generations of trauma and cultural losses (Kuhn-John, 2010) in contemporary Diné society. They continued to shape the world by unifying traditional aspects for its people and children who were conflicted

daily with and by the demands of American schooling and Euro-western worldviews (Manuelito, 2006). The Navajo people align their thoughts, beliefs, ceremonies, and traditions to systems involved in Hózhó and continue to teach its precepts and values to Navajo children.

Navajo children and youth face an even greater challenge of living in two worlds: the traditional world and the contemporary world. Many children living on the reservation experience both systems of the traditional way of Navajo and the more influential American system. Many Navajo elders and health administrators believe that the exposure and experience of living in two worlds led to the problems that exist, such as Navajo youth being disassociated with traditional and ceremonial way of living and the obesity and health related problems. The concept of Hózhó includes the life pattern of physical activity as a unified responsibility of all that shaped life standards, values, culture and tradition.

The lifestyle and physical activity by the principles of Hózhó philosophy are based on daily living principles and daily necessities for survival. There is very little published research on the perspectives on physical activity lifestyle in past generations of Native Americans. The few studies that do exist are reflective of the changes in traditional lifestyle that had tremendous impact on current health factors and daily physical activity characteristics (Colbe & Rhodes, 2006). As in any culture, physical activity was a precursor in order to obtain health and well-being. Family and social encouragement are influential in developing youth and adolescents' behaviors of becoming a physically active lifestyle in Native American culture.

Active living for traditional Navajo consisted of sheep herding, planting corn and melons, cattle raising, rug weaving and ceremonial or traditional practices, a practice of sustainable living (Iverson, 2002). The outcome of Federal Government policy, native students were required to attend boarding schools that were located at far distances away from their homes. (See Appendix A). This affected the sustainable living practices taught by parents and grandparents. Children no longer maintained these activities since this ideal was not the intended goal of the boarding school officials, but to eradicate the American Indian identity through the assimilation process which was to Christainize and tame children. In that sense, boarding school systems disrupted the preservation of traditional lifestyles among native children, such that students were required to engage in physical education that was of a militaristic style curriculum which was devised by Captain William Pratt, a military officer (Bloom, 2000; Iverson, 2002).

Today, the physical activity levels among general high school population are declining due to sedentary living and inactive lifestyles led by computer games and less participation in school sports and high school physical education (Pate et al., 2007). High school physical education, however, may be the one avenue for students to engage in physical activity (Brooks & Magnusson, 2006; IOM, 2013; Pate, Davis, Robinson, Stone, McKenzie, & Young, 2006).

The health of Native American children has changed drastically since the 1970s. Relative to Native Americans' weight statuses, Story et al. (2003) indicated the following:

1. 1970: One-third of 167 Navajo preschoolers were underweight in the 3rd percentile, over three-fourths of children in one community had weights and heights less than the 50th percentile.
2. 1991–1992: 160 adolescents (aged 12–19) 35% of the boys and 40% of the girls were overweight (BMI >85th percentile for NHANES II).
3. 1997: About 41% of the 526 Navajo boys and girls (aged 6-12 years) had BMIs ≥85th percentiles.

With the changes in lifestyle habits, Native Americans children currently face threats of obesity and other chronic diseases. These impositions and consequences were at greater risks among the Pima Indians with BMIs at 85th to 95th percentile ranges (Story et al., 2003).

The difference was described as a "*protective* effect of traditional lifestyle" where a group of Pima Indians who had migrated to live in the mountainous terrain in northern Mexico had 13% of population obese compared to Arizona Pima Indians with 69% obese. These rates characterized the group with "traditional" lifestyle patterns (e.g., types of food consumed, walking/running to school) with "lower prevalence of obesity" whereas the Pima Indians living in and near Metro Phoenix region were described as "physically inactive on a regular basis" (Story et al., 2003, p.8).

Physical Activity: United States Youth

For adolescent boys and girls, the moderate-to-vigorous physical activity levels and participation time decreased dramatically from 49 minutes per weekday and 35 minutes each weekend day. Boys were more active than girls, spending 18 and 13 more minutes per day in MVPA on the weekdays and weekends, respectively. The time

increment was 7 days, including 2 weekend days. (Nader, Bradley, Houts, McRitchie, & O'Brien, 2009). Troiano, Berrigan, Dodd, Masse, Tilbert, & McDowell (2008) found 8% of adolescents participated in 60 minutes of daily physical activity. Adolescent girls are less physically active than boys (e.g., Caspersen, Pereira, & Curran, 2000; Trost, Pate, Sallis, Freedson, Taylor, Dowda, 2002; Van Der Horst, Paw, Twisk, & Van Mechelen, 2007). Flohr, Todd, and Tudor-Locke (2006) found gender differences in adolescents with boys significantly more physically active than girls in categories *all day*, *weekend days* and *physical education days* during a 7-day period. In addition, both groups appeared to meet the recommended 11,000-13,000 steps/day for girls and boys, respectively (Flohr et al., 2006). And physical activity levels declined nearly 50% for girls in high school (Pate, Dowda, ONeill, & Ward, 2007).

Due to decreased physical activity levels and complications associated with diabetes and obesity conditions, physical activity specialists and Physical Education programs may be needed (Morris, 2006). Morris (2006) stated that it was difficult for adolescents to develop physical activity levels due to embarrassment from participation, fear of teasing, and difficulties of excessive weight gain and that overweight students participated in physical activity within their own communities and benefited from increased comfort levels.

Regular participation in physical activity contributes to lifelong health benefits. Greendorfer (1977) found that a strong correlation between physical activity participation and children who had parental involvement as well. These finding were supported in a later survey by the US Department of Health and Human Services in 1996 (Portman, 2003). Therefore, physically active parents were positive contributors to physically active

youth and children. Also, national surveys by American high school students indicated that few adolescents met the minimal goals for participation in physical activity, 51% of boys and 76% of girls failed to meet minimal standards (Portman, 2003). Students from Portman's study indicated that physical education "is not fun", "is intimidating" and "is not safe" and the current programs failed to support positive impacts toward respect to healthy living (p. 151).

The current study included that Navajo youth live in contemporary society and are experience overweight and diabetic health issues in association with low physical activity rates. These issues were not prominent 40 years ago. The focus was to capture the views and the meaning of physical activity, physical education and wellness concepts from the standpoint of Navajo high school students, teachers and community members as well as to determine current physical activity patterns of Navajo youth. This study elicited the interpretation from a group of Navajo students and educators in the Southwest USA.

Problem Statement

The Navajo principles of Hózhó and K'é holds value to what was held as health and well-being in the past, will continue to be carried into the future. According to Navajo educators, the People (Diné) who fell out of balance, despite efforts to preserve culture and harmony, became disassociated from their language, philosophies, lifeways, songs, stories, and healing rituals (Kuhn-John, 2010). And according to Kuhn-John (2010), the group most associated with the problem of "disassociation" was the Diné youth (p. 114). She believed that Navajo youth lack understanding of the cultural ways of life, ways of knowing, and ways of doing. This downfall was detrimental to the health and wellness of the physical and mental body and the person became disassociated with

the past and present health and wellness of the Diné or resulted in *cultural bereavement* which she described.

Navajo youth who were out of "balance" or out of harmony were disconnected with peers, elders and family. The youth also became disconnected from their environment. The identity of the Diné exists within and among the People and the environment with relationship established. Therefore, it not only is an individual and family effort, but a community effort to help the population to attain and establish a state of Hózhó and K'é. Health problems associated with Navajo youth have resulted due to an imbalance in mind and body or have fallen out of balance from traditional *balanced* lifestyle. Navajo youth have fallen away from the traditional way of life, culture, beliefs, language and religion. As a result, Navajo youth are becoming increasingly physically inactive, obese, and overweight (Kuhn-John, 2010) similar to non-native American youth.

Purpose

This study has dual purposes. First, this study elicited the perceptions of physical education, physical activity and healthy lifestyles among Navajo high school students, physical educators and a culture teacher. This segment of the study included interviews and anecdotal notes. The second purpose was to examine the physical activity levels of Navajo high school students. This part of the study included collecting pedometer data gathered during segments of the regular school day and out of school days. Field notes were also taken and observations conducted during physical education class visitations. This study answered the following research questions:

1. How are physical activity and physical education viewed by Navajo high school students, physical educators and a culture teacher?
2. What are the perspectives of high school students, physical educators and a culture teacher about the concept of living healthy? In terms of the Navajo concept of Hózhó?
3. What are the physical activity levels and patterns of Navajo high school students in Physical Education, across the school day and daily (24-hour)?

This study adds to the limited evidence of the value of physical activity, physical education and wellness concepts according to the perceptions of Navajo high school students, educators and community members and to provide baseline data on the physical activity patterns of Navajo youth.

CHAPTER 2

PERCEPTIONS OF PHYSICAL ACTIVITY PATTERNS, HEALTHY LIVING, AND PHYSICAL EDUCATION AMONG NAVAJO HIGH SCHOOL STUDENTS, PHYSICAL EDUCATORS, CULTURE TEACHER AND A COMMUNITY MEMBER

Navajo Youth and an Unbalanced Way of Life

Hózhó and K'é are philosophical concepts that are significant to the Navajo way of living. Although many Navajo youth grow up in a bicultural and Western dominant society and may have less regard for traditional, cultural and ceremonial practices, their identity is Navajo. Even today, Navajo children continue to learn about the Navajo way of life despite the many changes in modern living. Although individuals are faced with day-to-day challenges and inequities, they will mold beliefs and values around Navajo principles and philosophy that will continue to benefit the individual's life (Lee, 2006).

Navajo traditional practitioners, such as nurses and health educators providing care to Diné people, emphasize that youth are becoming and living lifestyles that are unbalanced with traditional ties which has led to unhealthy living (Kahn-John, 2010). Navajo children are becoming less familiar with Hózhó and the traditional concepts of living a balanced life. This non-traditional practice has led to the emergence of several unhealthy behaviors, including a lack of physical activity (i.e., increased time spent in sedentary activities). In Western society, personal barriers are identified as possible primary reasons for a lack of physical activity and poor health related issues. Identified barriers may be the lack of time, low levels of body consciousness and body-esteem image, and lack of parental support (e.g., Zabinski, Saelens, Stein, Hayden-Wade, Wilfley, 2003).

Navajo practitioners have stated that the barrier for the lack of physical activity among Navajo youth is that youth are "being disconnected from the ways of Hózhó" and such disharmony is evident (Kahn-John, 2010, p. 113). The empowerment of Navajo philosophy is to know that all things are interrelated and not independent of another: health, spirituality, harmony, beauty and environment. The environment is vital to Navajo wellness and health according to Navajo health practitioners (Kahn-John, 2010). The concept of Hózhó influences Navajo life from a traditional perspective and a contemporary one. Without the interrelatedness of all things, Navajos become disembodied to culture and lifestyle, resulting in loss of self-discipline to maintain physical traditional ties of running daily and in ceremonial practice.

Rates of diabetes II are growing more common among Navajo youth. There was a prevalence rate of 2.07 per 1,000 among males and 2.63 per 1,000 for females from age 15-19. Also, one in 359 youth had diabetes and 1 out of 2,542 developed diabetes annually (Dabelea et al., 2009). Thirty five percent of Navajo boys and 40% Navajo girls, age 12-19, are overweight (Eisenmann et al., 2000). In another study, the U.S. Indian Health Service reported that the estimated prevalence of Type II diabetes mellitus is as high as 4.5 per 1000 Native Americans between the age 15-19 (Morris, 2006).

Students, Educators and Cultural Views of Physical Activity, Physical Education and Wellness in Native American Communities

Native Americans and their experiences in a formal physical education setting began during the period of Americanized education in the late 1800s. Federal Indian policy was to acculturate Native American children into dominant white society and Christianity (Wallace, 1995), using a *Uniform of Course of Study.* It included physical

education as a means of training Native American children aimed at counteracting the influences of unfortunate heredity and strengthening the physique in order to get the best out of life (Bloom, 2000). The core part of the school curriculum was physical education with the focus to "literally foster moral and intellectual progress by altering the body types of students" (Bloom, 2000, p. XVII) which ran against the Native American traditional beliefs of establishing interdependence between man and nature. The belief is based on holistic nature where all living things are interconnected and one's perspective involves more than human to human context; it involves humans, animals, plants, the natural environment and the universe (Fixico, 2003). Physical education was not used for the engagement of physical activity for the embodiment of physical health, wellness and spirituality, but rather as strict means for assimilation and disciplined minds and bodies.

Purpose

The first purpose of this study was to understand and to investigate the fundamental Navajo way of life that relates to physical activity, healthy lifestyles and physical education from the perspectives of Navajo high school students, physical educators, a culture teacher and community member. The second purpose was to also examine the role of Navajo principles, Hózhó and K'é, in the life choices of Navajo high school students and how these traditional principles are viewed by physical education, Navajo culture and Diné studies teachers in schools and also by the community member.

Research Questions

Six specific research questions guided this study including:

1) What does "living a healthy lifestyle" mean to Navajo high school students?
2) How do Navajo adolescents practice and live a healthy lifestyle?

3) How are Navajo students influenced by the Navajo concepts of Hózhó and K'é? How do they view these concepts and how they impact their daily lifestyles, physical activity participation and other health-related behavior?
4) How do Navajo adolescents experience physical activity at school and home?
5) How do Navajo high school students define and experience physical education?
6) What does "living a healthy lifestyle" mean to Navajo educators? What does "living a healthy lifestyle mean to community members? How are the concepts of Hózhó and K'é viewed in regard to healthy lifestyles and daily practices? Are the concepts of healthy lifestyles integrated into the daily teaching practices in school? If so, how? How do teachers and community members view youth physical activity and physical education?

Methods

Participants

The selected participants were of Navajo descent who attended one school district in the southwestern USA and are members of the Navajo community. All physical educators, classroom teachers and the community member were of Navajo decent, except for one physical education teacher who was Caucasian. The interview sample consisted of the following: (a) eight Navajo students: four females and four males, (b) two physical education teachers, (c) one Navajo culture teacher (d) Diné Studies teacher and (e) one community member. All participants were interviewed once (60-minutes) during the regular semester. Their names, school name and city/town location were identified using pseudonyms to ensure anonymity.

Recruitment

All physical education classes received an introduction to the study, study purpose and the methods of data collection. Six interviews were conducted on campus; two were conducted at the participants' residential sites while parents or relatives observed. My initial consideration in selection was to recruit physical education teachers of Navajo descent and who have experience in teaching in Native American communities. Teachers of Navajo decent would best represent the cultural aspects of Navajo children, youth and community. The Navajo Language teacher and the Diné studies teachers received their secondary education degrees in English and History, respectively, from accredited universities.

Teachers. Four educators participated in this study: Laura, Adam, Russell, and Tina. The background teaching experience of the two (2) physical educators and classroom two (2) teachers ranged from six years to 24 years working within Native American communities. Two female teachers had 20 or more years teaching experience within Navajo communities. Two teachers, both male, had begun their teaching career at Sandy Ridge School District. Adam and Russell were in their 7th year teaching. The highest degree attained by all four teachers was bachelor degrees in education. At the time of the interview, both male teachers were taking university courses seeking a master's degree.

Community Member. A community member was recruited. She was a Navajo woman named Mary, aged 44, who grew up in the community and attended elementary and secondary school in the community of Sandy Ridge. Mary has degree in Public

Programs and works for the Office of Diné Youth for 23 years and is currently a program supervisor.

Students. Eight high school students from one high school were recruited for interview in this study. Selection consisted of four girls and four boys of Navajo descent. The grade level of female participants included one-ninth grader, one-sophomore, and two-seniors; male students included one-ninth grader, two sophomores, and one-senior. Student participants with parent/guardian consent and student assent on file were recruited by random selection. The high school participants were Jennifer, Walter, Nelson, Michael R, Angel, Katelyn, Derek and Jazz Lee.

Context

School. The targeted school district was located on the Navajo Nation in a small rural community. There were six schools in the district that serviced 2,155 students in academic year 2013-2014. The School District had one high school (grades 9-12) with a student enrollment of 586 of which 578 were Native American, 1 Asian Pacific Islander, and 7 Caucasians.. The percentage of Native American students attending this school district was 98.5%.

The location is a rural community in the Southwestern region located in Arizona with a population of 4,047 with 97% Native American, 2% White, and 1% Hispanic. The school district received Title I funding. The number of high school students who were eligible for free lunch programs was 95% or 557. There were 45 teachers at the high school with a student-teacher ratio of 15:1. The high school dropout rate was 6.8% and the graduation rate was 52.8%. The overall district dropout rate was 5.4%.

Places. Four participants grew up, live and resided on reservation land. Two other participants lived in the Phoenix area up to 3rd grade. Two others lived in other states and coming into adolescents moved back to Sandy Ridge community. There is a strong connection between the cultural identification and land. The traditional relationship of Diné People and their landscape is evident. The students who attended schools in metropolitan areas away from the Navajo reservation at very young ages, eventually, returned to their homeland of the Navajo reservation where they all currently reside.

Jennifer and Michael lived in the Phoenix metropolitan area early part of their life. They remember moving back to the Navajo reservation at about age eight. Katelyn and Walter grew up and were raised in Albuquerque and Provo having moved back to Sandy Ridge community on the Navajo reservation during their freshman year. Walter, however, did not complete his freshman year at Sandy Ridge and had eventually transferred out of the Sandy Ridge school district. There were four participants who grew up in Sandy Ridge community or nearby communities. One participant, Derek, grew up in a small remote Navajo community about 20 miles from school.

Diné Family Structure. All participants live with at least one biological parent. Three participants (Angel, Jazz and Derek) live with both biological parents. Katelyn and Michael came from single-parent homes and lived with their fathers. Jennifer and Nelson lived with their mothers. Walter lives with his father and step mother. All participants have one to five siblings.

Curriculum. The high school did not have a Physical Education curriculum. The only two physical activity courses offered were 1) freshmen physical education and 2) Strength & Conditioning classes. Freshmen physical education was a requirement only

for ninth grade students. *Strength & Conditioning* class was a weight training course open only for sophomore, juniors and senior students. These classes were held on a daily basis.

Instruments

The purpose of this study was to investigate the perceptions of Navajo high school students, teachers and community members. This type of qualitative methodology is, first of all, "sensitive to perceptions, meanings, and understandings that are subjective" (Rosenblatt and Fischer, 1993, p. 168) and, secondly, it requires a deep consideration to the value of the context and setting when searching for a deeper understanding of the participants' lived experiences of the phenomenon (Marshall & Rossman, 1994).

Background information. A demographic questionnaire was used to identify the background of each participant: students, physical educators, other educators and a community member. Student information collected consisted of age, grade, and gender, ethnicity/tribe, and previous school attended. For reasons of confidentiality, all students' personal information was recorded according their given pseudonyms.

Interview protocol. Interviews were conducted within the community: the high school, a local restaurant or residential home over one academic year. Sixty minute interviews were scheduled, conducted with each session tape recorded, and then transcribed. The range of interview time was from 45 minutes to 60 minutes. Anecdotal notes were taken during the interview process to track important concepts. One student interview had to be rescheduled a following day because of continuous stopping of the recorder. Therefore, a second tape recorder was available for backup purposes. An interview guide was used, thus allowing for flexibility and modifications.

The general interview guide was based on three separate categories: a) the student/educator background and family background or history, b) details of current experiences while in high school, and c) reflections on meaning. Also, three separate versions of interview guide for students, educators and community members were used during the interviewing sessions (See Appendix E). Questions were open-ended with follow-up prompts to allow for participants to speak freely and openly about their beliefs and perceptions relevant to the topic of physical activity, physical education and healthy behaviors.

A modified version of Seidman's (2006) 3-part interview series was used. Seidman's interviewing approach is described as grounded in phenomenological tradition of three distinct, thematic interviews designed to question meanings of experience (Dilley 2004, p. 128). According to Dilley, Seidman's interviewing methodology provides

> "Access to the context of people's behavior and thereby provides a way for researchers to understand the meaning of that behavior. A basic assumption in in-depth interviewing research is that the meaning people make of their experiences affects the way they carry out that experience…Interviewing allows us to put behavior in context and provides access to understanding their actions" (p. 128).

The respondent, therefore, provides meaning through what has transpired through *what* is said, *how* it is said, and accordingly, by *what* and *how* the listener conveys the message. This methodology was used to justify the means to exploring what others feel and think about their worlds, experiences, and events.

Observations with field notes. Additional modes of data collecting included field observations and field notes. The purpose was to observe students in their own cultural environment and surrounding. Field observations and field notes were taken during physical activity participation during physical education classes and in school activities. Ten school visitations occurred during the fall semester.

Transcribing notes. Interview tape recordings and anecdotal notes were transcribed following the interviews. The interviewer transcribed the audio-taped interviews, field notes, and memos. All interviews were transcribed verbatim using a transcribing machine. All participants were given a copy of the transcript and the opportunity to check, change or edit their statements. Neither students nor stakeholders transcripts were returned to the interviewer/researcher for required edits/changes.

Study Approval Process

The 12-phase Institutional Review Board (IRB) approval process from the Navajo Nation Human Research and Review Board (NNHRRB) began with the submission of a letter of intent to conduct research on the Navajo Nation. One phase of the NNHRRB was to obtain approval letters from the participating school principal and school board, the community Agency Council supporting resolution and University Institutional Review Board. The project received unanimous support from the Agency Council officers and community members and obtained a community resolution. The Navajo Nation IRB (NNIRB) received all official documentation for review. The project was placed on the NNIRB meeting agenda to present the project proposal. The NNIRB approved my request unanimously by the board and the project received the official letter of approval

to conduct research on the Navajo Nation. The NNIRB letter of approval to conduct research was submitted to Arizona State University IRB, being the final institution to approve this graduate research study.

Data Analysis and Credibility

Constant comparison methods were used to identify common themes across the following groups: Students, community members and teachers. Patterns and themes were identified, coded and transformed into themes.

An independent peer reviewer was used to compare, argue and negotiate emerging themes with the researcher. Both investigator and peer reviewer searched for negative cases. Triangulation of data sources was used to enhance credibility and persuasiveness of analysis. This process included that data was compared across students, physical educators and culture teacher's data as well as with observations and corresponding field notes.

CHAPTER 3

Results: Part 1- Navajo Students' Perceptions of Healthy Lifestyles

The purpose of this study was to examine the perceptions of how Navajo high school students view physical activity, physical education and healthy living. The following research questions guided this study including:

1) What does "living a healthy lifestyle" mean to Navajo high school students?
2) How do Navajo adolescents practice and live a healthy lifestyle?
3) How are Navajo students influenced by the Navajo concepts of Hózhó and K'é? How do they view these concepts and how they impact their daily lifestyles, physical activity participation and other health-related behavior?
4) How do Navajo adolescents experience physical activity at school and home?
5) How do Navajo high school students define and experience physical education?

The findings describe the students understanding of physical activity, physical education, and physical activity based on personal/family background, current involvement in physical activity, and how these concepts are understood in terms of traditional practice. The following are common themes across participants' perspectives: (a) Diné Youth and Physical Activity, (b) Understanding Physical Activity, (c) Families and Physical Activities, (d) Perceptions of Physical Education, (e) Concepts of Healthy Living, and (f) Hózhó.

Diné Youth and Physical Activity

Cultural Identity, Place and Family

Cultural Identity. The cultural identity of the eight high school participants was Diné (Navajo). The identity is a dominant identity of cultural manifestation of Navajo origin and a sublime of westernized ways of thinking.

Cultural identity was shown in the practice of Navajo tradition and running. Seven of the eight participants had engaged in running activities early in life and one respondent did some running only during community run/walk events. Most continued the practice into high school and planned to continue engaging in the tradition of running. The types of running consisted of cross country running, early morning running, and community running and walking events. This is a form of innate practice that transpired from the origins of each participant's parents or grandparents. The value of shared family practice is evident in Diné cultural practice by grandchildren engaging in sacredness of early morning running. The physical body is to maintain and endure through active involvement in order to meet demands of daily living.

The participants described the physical activity of family members' participation. The importance of family involvement was shown when students identified aunts, uncles, cousins and grandparents actively engaging in games, sports and lifestyles activities. Their sense of identity and physical activity participation followed the pattern of sports engagement that a parent(s) or relative(s) had currently participated in, such as Jennifer with basketball and softball, Angel in cross country and track running, Michael in basketball, and Walter in soccer and cross country running.

Understanding Physical Activity

Students were given the opportunity to define and interpret their own meaning of physical activity. Participants used the term "active" to describe meaning of physical activity.

Body and Movement

All participants were asked to define the meaning of physical activity with the question *what does physical activity mean to you? How would you interpret the meaning of physical activity?* The descriptions given entail the "body" and "movement." Although separate terms, each occur in unison and may not coexist without the other.

Physical activity is where "you just keep moving and you're staying active …" The Navajo interpretation of this describes the physical body moving through space. Seated deep within the body is "air" which is a sacred element containing power and energy, thereby, activating movement (Schwarz, 1997, p.142). To maintain the natural order of wellness and place, the body must endure fitness through daily work. This premise is devised from the concept of *Hózhó*, meaning *Beauty*.

Walter gave the following definition that "physical activity is probably just moving around because there's a lot of, like, physical sports that are classified as physical I think from my qualifications, it probably just be contact like…contact cuz ballroom is pretty physical because you have to do a lot of stuff cuz but your still in contact but like cheerleading would even be pretty good cuz you have contact but like chess and stuff like that is not a physical sport but it's still classified as one for some reason…" (Walter).

Another description of physical activity is "just you..stretching…" performing "muscle endurance, cardio…exercising…cause the healthier you are, probably, the longer you'll live" and also "It's best to stay fit…I think it would be helpful, that way they can

be active and don't have any health problems when they're reaching the old age," (Michael). Although a non-athlete, a senior student, Derek, viewed physical activity more of an athletic approach stating "to me that you can do stuff that you're like you're good at, like basketball, football or baseball or track, cross country" and also included that "I just do this…every time we just have open gym and play basketball with other students…or it's just volleyball."

Most participants identified physical activity as those relating to physical fitness. One student, Nelson, spends his time after school at the wellness center weight lifting. He stated, "I usually work out, do my regular benching, squats, curls, and I get on the treadmill." In comparison, Nelson described the physical activities performed during physical education as "running, stretches, playing different type of sports, and push-ups-muscle endurance." Katelyn stated that "I don't really, I guess I don't play sports. I just do cardio and fitness classes at the wellness center or go running by myself" and this participant also engaged in activities like "kickboxing class," "zumba" and identified "strength and conditioning" classes as physical activity related. Katelyn also identified her mother doing "a set regimen every day" of "weight lifting…and cardio". A third participant, Jennifer identified cross fit as a form of physical activity where she lifted weights, performed push-ups and body weight resistance activities.

Jazz interpreted and described physical activity as "just keeping yourself in shape, just having that confidence of knowing that you're in shape (laughs), and you can, you're more agile to do things." She added the following statement as confirmation, "it helps me keep a good body image, like you're fit. Like if you were to…join a sport or like do any type of activity like you would be prepared for it, you'd be like *Oh, I have since I've been*

working out, I bet I can do this and do this! And like there's a bunch of things you can do!"

Organized Sports/Outdoor Play

Some participants described physical activity as engaging in organized sports or competitive team activities. These specific organized team activities that the following participants took part in were held during the summer months. Nelson described little league baseball during his childhood as a form of physical activity. Angel and Jennifer described playing in summer softball and basketball leagues at young ages. Angel recalled playing on a sports team when she was about in second grade, Jennifer was about age eight. Jazz recalled engaging in youth basketball at an early age. Michael interpreted organized sports competition as engaging in independent tournaments and having league status. His summer league play involved competition in basketball.

Only one participant identified physical activity as outdoor play. Derek described time spent outdoors, "Uh, me, I just play outside, my brother does sometimes [hiking or jogging]… Sometimes, we just play Frisbee-and sometimes we just ride our bikes…Um, just mostly in the evenings..cuz at other times, it gets too hot." He also stated that his friends live nearby and they ride bikes quite often as well. Walter described physical activity as a leisure form of activity, "I go…do basketball at the basketball hoop by my house after" he completes the tasks and work that his mother wants him to do.

Families and Physical Activity

In addition to telling about their own physical activity experiences as they were growing up, all eight participants shared their families' involvement in youth sports and activities. This following section provides brief physical activity biographies based on

youth sports and adult activities. The youth sports activities will include two parts: the participants' physical activity experiences while growing up and their parents' experiences in physical activity.

Youth Sports Activity

Most high school participants began engaging in youth sports at an early age. The types of youth sport activities that participants engaged in were karate, little league baseball, and youth basketball. Six of the participants engaged in youth sports or activities, because the parents chose to place their child into youth sports during summer months. The summer programs were held within their own community or a nearby community. One participant was in the first grade when his parents placed him in a karate class in Mesa, Arizona. His parents were the deciding factor of his placement into karate lessons. He only recalled this time in his life through photographs his parents collected. Michael remembered engaging in youth sports from 1st through 4th grade. Two other participants recall playing in youth sports leagues baseball, basketball or softball at about grade four within their community. One participant, Jazz, was the exception. She decided that she wanted to try something new, "when I was little, I was like, I wanted to try something new, so my parents put me in…youth basketball. And then I started liking it from then. I got into running and doing track and I started running after that" (Jazz).

*Running***.** Four participants engaged in running at an early age: Angel, Jennifer, Walter, and Jazz. One individual, Angel, was encouraged to wake up early in the morning to run with her father. She continued to participate in running activities in middle school and high school cross-country and track. Jennifer usually ran as part of her workout routine to stay fit for sports and sometimes ran in the morning. Walter was encouraged by

his older brothers who were also runners. Although he did some running when he was younger, he was more interested in soccer activities. He continued to wake up early in the morning to run a few miles before school. The form of running that Jazz liked to do was sprinting. She began at an early age and continued her pattern of running on the track team as a sprinter and was also on the relay team.

*Lack of Physical Activity at an Early Age***.** Two participants did not participate in any type of youth sports activity. Katelyn never engaged in youth sports, but was placed on an exercise and nutritional program. She was diagnosed with childhood diabetes at age eight. Derek never participated in youth sports; however, he played outdoor games with his sibling and neighborhood children. Playing tag games was his favorite.

Parents' Physical Activity Involvement

The participants describe their parents' current or previous involvement in some form of physical activity. The type of physical activity participation is described as coming in three forms: competitive sports, home-fitness activities, and lifetime leisure activities.

Competitive Sports. Jennifer and Angel stated that their parents engaged in some physical activity on a competitive level, such as, running, playing in leagues and tournaments in basketball and softball.

Home-Fitness Activity. Jazz's stated that her mother was the only parent who engaged in physical activity. Her mother did not take part in any community physical activity events. Instead, her mother follows fitness routines on DVDs. She states that her mother recently began her routine shortly after giving childbirth and is maintaining her

weight. Nelson's mother usually walked in the evenings. He sometimes walked with his mother.

Lifetime-Leisure Activities. Derek's parents worked around the house daily. His father cut wood and had to haul the wood in from higher elevations. Each load haul was demanding work and usually took a few days to complete. His construction work also kept him moving and very physically active. His mother generally worked around the house, cleaning and fixing things. She also tended to some chores that kept her outside daily. Michael's father remained physically active as a result of work-related duties as a cement truck driver. He did not do any type of physical activities at home since his job kept him quite busy and active. Walter's step-mother worked often and did household activities to maintain the family home. She also worked out in her garden tending to her plants. She liked to "run on the…treadmill… for a couple of hours; she tries to stay as healthy as she can" (Walter).

Limited or no Physical Activity. Walter describes his father who does not really do anything due to his job; "he is a *really business* guy, so he tries but like he's always gone and always doing meetings and such." In terms of Katelyn's father getting any physical activity she described that "he usually just does the moving around at work. And when he gets home, he usually doesn't do anything" (Katelyn).

Perceptions of Physical Education

Off-Reservation Experiences

Four of the eight participants had attended inner city schools far from the Navajo reservation. Jennifer and Michael moved back to the reservation at very young ages and did not remember much about their educational experiences during their attendance in the

inner city schools. Two other students, Katelyn and Walter, moved back to the reservation (Sandy Ridge) during mid-semester of their freshman year in high school.

Alienation. In Katelyn's case, she experienced having fun during elementary physical education. She recalled, "I just remember always playing like dodgeball, or a good activity with the whole class" and recalled the time as "it was fun." In middle school, she remembered the time where "we did agilities…" and states its importance "because it really shows how, I guess, fit you are." She described her personal self-image as "I was a little fluffy child. And I always ate junk food, anything…" The importance of self-image began to occur during her middle school years. And the transition into high school resulted in her experiencing alienated feelings of not fitting in with the average group of high school students. Her body type did not reflect the image of the group, also referred to as the "looking glass self- image" or characteristics of her high school peers. Her individual status was deemed lower by others around her and Katelyn set herself in a lower position based on her physique and fitness level. Her overweight condition led her to experience unwarranted differences, such as, the conditions of body weight.

Intimidation. Prior to residing back on reservation lands, Katelyn lived in the city of Albuquerque. She recalls only three other Native Americans attending the school. When asked how the city school was, she responded with "intimidating!" She continued with "Well, out there I guess there ***is more pressure to lose weight…and there's a lot more…I guess***, judging going on. So, like I was a little more heavy set out there…and I just felt, yes, the pressure of being in gym class because it was my freshman and I had PE out there …and I was part of the slow side. I guess you could say." When asked how that

made her feel, she responded with "chubby," and made her feel as though she was the overweight individual among her peers.

Curriculum. Walter's physical education experience in the inner city of Provo was a positive one. He stated that "I loved them. They are really fun. Like, I liked soccer a lot cuz I was really good at it and I stopped in 6th grade when I finished elementary. And then I played rugby just cuz, I don't know, I didn't want to play soccer anymore and rugby is really similar to soccer." Walter also identified his "old PE" program in the city as one that encourages "exotic sports" play such as "play[ing] lacrosse, rugby, handball, stuff like that and we learned about like shot putting and stuff, we just do all sorts of stuff, we only spend one week on each thing though… max." When asked if students on the reservation would benefit from such sports as rugby or any exotic activities, his response was, "if the kids would take it seriously or not, like rugby is really a good learning sport, it, like, it makes you focus more and, like, focus around you (and) it was proven in something like college studies." Secondly, Walter enjoyed his physical education experiences in Provo because the class design was structured with gender differentiation or "boys only" classes. He felt that he got more competition and "that (is) a lot better but I like that more because I like trying my hardest at sports *cuz* that's the only way I feel I like it's fun." When asked about the differences in school physical education experiences, Walter described "I probably would have went to (Centennial) High but I would have 6 electives that I could've chose, myself, anything. My electives were dance, drama, uh what's the name French, French II, and ballroom, so well that's just 6 electives that I want to choose. And that's one hour and 30 minutes per period because it's A-day and B-day. And then I'll still have my other core classes such as

English and stuff. But here, you're not allowed to choose anything, everything is just given to you." According to Walter, the inner city school's physical education program offered more choices in terms of physical education courses.

Navajo School Experience

Fit-Oriented. Michael recalled his freshman physical education experiences as "we mostly did a lot like, uh, drills. Kind a like um, then we'll do tests on how physical we are." When I inquired about other activities done during physical education class, Michael responded with "Mm, physical tests. Like um, how—our speed…" followed by "ultimate Frisbee." When I inquired what middle school physical education was like his response was, "Mm, kind of the same thing as, um, high school…We'll have fitness tests, play ultimate Frisbee, then matball…They're kind of like the same." [*Matball* is a kickball game that uses large fold out mats for bases. In order for the kicker to score a point, she/he must run twice around the bases.]

Jazz recalled the following about her freshman year in physical education, "We would usually run a mile before we start working out. Then we would have a competition of who can get the most sit-ups in a minute and push-ups in a minute. Everyone, every day, we'd always have or every two weeks we'd always have the vertical jump. And that was improving (chuckle) to a bunch of people…and then we would…usually have, we would just run and lift" and "like if you didn't do it right, you would like have to run. We did it, '*cuz* we didn't mind running, '*cuz* its called physical education and it's just like *oh, get in and stay in shape and just run.*"

Nelson's description of physical education was "this year, running, stretches, playing different type of sports, and push-ups, muscle endurance" and "she'll have, like,

different activities set up. We'll have, like, fitness days" which he expanded further into as "fitness days (are) we usually run, or we work on one part of the body, upper body or lower body or mid-section." Jennifer identified game play however "before all that we stretch. We do different, like, little workouts that are about 30 seconds" and "yeah, like push-ups and sit-ups…then run, yeah, then what ever, then let us play."

Too-Easy. Walter gives the following based on physical education at Sandy Ridge School, "let's see… like we, we just play sports a lot, like we'll play basketball and everyone will play basketball, well I'm not used to co-ed stuff like I'm use to having 40 boys in my class, not 20 girls and 20 guys, so it's kind of easy for me and (it's) the problem I think with co-ed is um too many guys try to show off just for girls. So they don't really take it seriously, but at my old school we all just try to go as hard as we could *cuz* there's no reason to show off. So I kind of don't like that about here." Derek stated the following when asked what he liked about his strength and conditioning class, "Mm, it's pretty good… Cuz I like uh all 'em classes because they are really easy and all the stuff in it."

Teacher-centeredness. Nelson stated that "when she's *real* busy" the class will have "like free, free time where we get to do anything." Jennifer also stated that "sometimes, like if it's a short day or she has things to do, then she'll let us have a free day. We could play basketball or volleyball." Walter's input, "but here, you're not allowed to choose anything, everything is just given to you. I guess it's just because they want, like want everyone to succeed and some people are not as smart as others, so they don't choose, they wouldn't choose the right classes if they had that opportunity or

maybe it's just cuz the teachers here, there's not that many teachers so they can't have that many classes."

Variety of Choice. In response to *what other activities do you guys play during Physical Education?* Michael described, "Uh, the sports we've played so far is badminton, football, basketball, and that's about it. And oh, we played volleyball too, but it's about two weeks per sport. And we just moved into hockey just barely." Jazz's recalled about freshman physical education experience was that the variety of activities was limited and she he did "not really" have a variety of choice of activity or sports units. She did recall, "We had a kickball one...and dodge ball!"

Angel believed that her teacher was prevented from teaching other concepts due to the school's curriculum and requirements of the school. She states, "The standards" and "how the school wants it…I think it kind of limits him [of] what he wants to do." She would like to see a physical education curriculum that includes "sports we are not used to, like tennis or golf, or lacrosse…different than what we usually do."

Self-Consciousness. Some students tried to maintain status by fitting into the social norm for acceptance. Jazz described that some of her peers as self-conscious individuals "because like when I think of it, like, well girls particularly are like really self-conscious of themselves and then they're just like we don't know, like they just go with what they got (laughs). I don't know; it's like weird! I think it's like, like for them to be more open, they have to be like, like in shape? Yeah, it's weird."

Walter identified that "the majority of the kids are really relaxed and they always, they don't care about anything, they just come to school just to be social. So it's kind of like half, more like one-tenth would be good and the other nine-tenths would be bad.

They take advantage of it…yeah, they just fool around and goof off just like they do now" and he included that "the fact that you get to do something you like in school, just like anyone, like for me, it's like I just like playing sports, for like someone else it just be equivalent, it's just like them playing video games at school. They like playing video games, I like playing sports, I just like sports, so I play in school, it's kind of like a plus for me."

Academic Part and Socializing. Some students identified that the academics participation benefited them more than the physical activity/sports participation. Katelyn mentioned, "cause you want the, the academic parts for when you're going to college and it helps your knowledge and then out of school like have time to wind down and get social with other people like with me I try to maintain my grades and I have, I'm in graphic design skills club. And I uh put a lot of time into that, too."

Jennifer stated the following that physical activity participation was fun and was a place for social interaction. She "likes it" because of "how much fun I have and it keeps me positive" and "I like the social part of it, I get to do stuff with friends outside of school…and sometimes while we're doing that we can talk about homework or different subjects in school, especially if we didn't get it" and Jennifer also identified the "social part of it" while she jogs or plays basketball.

Walter played basketball after having breakfast at school. He stated that "it is fun" and has learned the game of basketball while attending Sandy Ridge High. Walter preferred engaging in physical activity on a competitive level, he described "I like that more because I like trying my hardest at sports *cuz* that's the only way I feel I like..it's

fun, not just shooting like shooting a couple baskets and then everyone laughing, I prefer just like playing a real serious game of basketball."

Jazz, on the other hand, enjoyed the independence part of running and working out alone. Although she enjoyed sport participation, she felt that the social side of activities is in the academic side of school. She shared the following, "we would usually have like study groups in the library and we would have like a game going on in the library to see who knows more. That's what it was." In addition, Jazz believed that students ought to engage in physical activity outside of school, "I think they should engage in it more because like today; it feels like today's clothes are like getting smaller, 'cuz like more people are being more active. And that's kind of like the generation now is teaching the like younger generation and it just feels like you need to be in shape.."

Concepts of Healthy Living

A General Point of View

Most students pointed out the concept of healthy living in general terms. Although Walter had never heard of the term "healthy living" specifically, he described healthy living as "probably just going to fast food once a week, working out daily, getting enough sleep, just like taking good care of yourself probably."

Jennifer identified the meaning of healthy living as "staying active and eating well...most of the time…at least running or walking. It'd be… it could be what you want yourself to be and reaching your goals like, let's see, running a certain amount of miles and being able to reach it. Accomplishing it, yeah, and being able to easily" and being "[responsible] like getting home early, getting enough sleep, and knowing when to stop…Like when you take a break from doing everything." Jennifer stated the following

example, “When I stay out too late when there are tournaments. And I come home and play another game in the morning; I get enough sleep like the week before. I try not to do as much workout as I usually do.” Jennifer also addressed that if she was not engaging in physical activity “I’d probably be more emotional or maybe, I wouldn’t focus on school as much…Cause the only way I could do sports is to keep my grades up. And that’s what…as far as doing better.”

Angel learned about healthy living from her freshman physical education teacher. She learned that “health is mostly, basically part of your life. It’s gonna be there most of the time. You can’t get out of it. ‘It’s like reading” and “that you can’t give it up, probably ‘cause it’s mostly up to you.” She provided the following example, “I think sleep is more [important]… ‘Cause if you don’t get enough, then you’re gonna be tired, and you won’t be—you won’t put your effort, as much effort as you want into it.” Her current physical education teacher had shared very little about the concept of healthy living during class time.

Nelson’s interpretation of healthy living was “healthy eating and [getting] the right amount of exercise, with some activities here and there would do someone good.” His continued that his 9th grade physical education teacher talked to the class about *health being importan*t. Also, Jazz had learned about healthy eating concepts from her previous physical education teacher during her freshmen year. She learned about nutrition and “portion-sized eating.” She shared the following about her previous physical education, “his philosophy in the class [was] to just drink a lot of water and [eat] vegetables and meat” and “to stay away from carbs” because “the sugars turn into fat and then it could just stick on you.” In addition to healthy eating, Jazz indicated that getting the proper rest

is beneficial, “it’s true…Like the more…the right amount of sleep you get is like it helps you the next day because you’re more balanced and more refreshed and your body’s well rested.”

In relation to the teaching of healthy living concepts, Jazz stated that “it keeps you in shape” or in “physical shape, like you’re more…consistent of doing things.” Secondly, “since you have, like many things on your mind, I kind of think it’s a stress reliever, too. And by incorporating concepts of healthy living, Jazz added, “Because some kids at home or some kids around here never get structure around here, like a foundation they live on, they live on and they really don’t know what to do. So when they come to school, they really depend on like learning, ‘cuz learning has a lot of structure, in writing, math, science, everything. So I think that’s what it is.”

Hózhó

Diné Youth Interpretation of Hózhó

One student in particular, Jazz read about the concept of *hózhó* from a book. She shared the following: “Well, I’ve only heard about this recently. It was last semester, um, in Navajo or Diné studies. I read it from a book. It said like *hózhó* means like having harmony and love.” She described it with the following example, “When I think of it, ‘cuz we’re Christian… and when we think of like the Navajo traditional way, we’re…it feels like they just made up a story. Like they were lost, but when we think of it, like, like out of all respect, like we know that their philosophy is to have peace and just…I don’t know…to just have balance among each other and be peaceful… I respect the tradition, but I don’t really agree with them…Cuz Christianity, it’s like, it’s so weird like they have like the Navajo tradition is like really like based upon like the Holy People and like Maíí

[coyote stories]. And then the Christianity is based upon Jesus, so, it's kind of like they have a controversy amongst each other like they don't connect together." In regards to healthy living concepts based on ***hózhó***, Jazz believed that "it should be exercised in the traditional way more often" in school "probably having people eat more healthy and having a mentally good mind set of thinking."

Jazz shared an example of the importance of the need for healthy living concepts to be taught during physical education classes "most likely because…the students really don't know what they're doing. Like they don't know what they're doing so they really lay back, like ground to really make something of themselves. I guess you could put it that way." Jazz provided the following example,

> "Like there's this guy in my class, like he's always talking about like how at home like his family is like always on alcohol and when he comes here, he's like more like it's more calm when he comes to school and when he goes back home it's all hectic and so, when he comes here, like it, he needs, I think he needs to know like what *hózhó* is. Like what you said in the Diné way and then other aspects of what people think of it, yeah. Mm, it's kind of like the thing that just blows my mind like it just passes by just like hey, look there's ---, and it's just like, like I don't really tend to *hózhó***,** like I tend, like I don't know, when I think of it the meaning of life is like 'love'. I'd rather think of *hózhó* is like harmony, like there is a difference between harmony and love. It's kind of I don't know."

Jazz concluded that having *peace within self* is another descriptor of *hózhó*.

The interpretation of how students view the meaning of Hózhó comes from what they have learned throughout the community and surrounding environment. Most of what they understand had been learned outside of the school environment.

Hózhó according to Katelyn means, "I guess be happy…or to be optimistic, I think just to keep moving forward or…Like don't dwell like on a lot of negative thoughts or events around you, just kind of…what's the word…just keep being happy, on the

lighter side, to help you trek through this. It would be helpful to students that don't have…don't have any knowledge of it. But overall it seems most of the students know what it is, like uh, cause…like at some of the community events they like, or they give out shirts. And then or if you participate in an event they'd give out shirts. And then of course, there they would uh talk about the concept of the 'Hózhó. And…I see a lot of students that are in strength wearing their shirts."

Jennifer stated she knew little of the meaning of Hózhó. She continued with the meaning as "respecting yourself and enough to take care of yourself" and "like respecting yourself to where you'd take the time to better yourself…Like physically, emotionally, mentally."

Community Involvement

There was evidence of community support to educate high school students in healthy living concepts. Angel stated that the [former] Boys and Girls Club provided information about Hózhó since "that club's the one that my brother always goes to sometimes. I think because, um, most kids won't get obese and mostly 'cause a lot of students are obese these days. I think it's most important to keep staying healthy." She also stated that a "speaker from that wellness…I think it's from OYD [Office of Youth Development] did a presentation and talked about it [diabetes]. They talked to us about diabetes, overweight, and what's good for your body. Like how much meat you should eat. And how much vegetables you should eat."

The Office of Youth Development also shared information on healthy eating to it recipients. Michael states that "I just know my old coach, when I was like, twelve, she used to tell us to eat right…that way it doesn't affect us." He also believed that his

community is health-oriented, such that "I think our community *is* active, 'cause usually, when I go to school, you see these people running, jogging on the side of the road from Cedar Valley to Sandy Ridge. Then you got—you hear about other people running in these, um, charities"

Students stated that some health educators went to their school during their middle school years to provide educational information about health, diabetes and proper eating. Jennifer described a community outreach program during a week-long summer diabetes prevention program at Asaaii Lake. The program was fun and she learned how one would get diabetes and also learned about prevention measures. It was also a time for social gathering of new friends.

CHAPTER 4

Results: Part 2 - Stakeholders' Perceptions of Healthy Lifestyles

The purpose of this study was to examine the perceptions of how physical educators, Navajo culture teacher, Diné studies teacher, and a community member view physical activity, physical education and healthy living. The following research questions guided this study including:

1) What does "living a healthy lifestyle" mean to Navajo educators? What does "living a healthy lifestyle mean to community members? How are the concepts of Hózhó and K'é viewed in regard to healthy lifestyles and daily practices?
2) Are the concepts of healthy lifestyles integrated into the daily teaching practices in school? If so, how? How do teachers and community members view youth physical activity and physical education?

Through personal interviews of five adult members of the Sandy Ridge community, several themes were identified. Laura and Russell (Physical Education teachers), Tina (Navajo Culture) and Mary (Community Member) described a Diné upbringing: running, worth ethic, defined sex roles, and long-term resilience. Adults described adult lifestyles that were instilled by their parents, who acted as role models. Diné adults described an involvement of extended family members, while the Anglo community member referred to immediate family and friends. Descriptions of early experiences in physical education show a trend toward increasing emphasis on physical activity in the school environment. The following section describes the themes drawn

from the stakeholders' interviews: (a) Teacher Perspectives, (b) Impacts of Diné Culture, (c) Parents as Role Models, (d) Early Physical Education Experiences, and (e) Teaching of Diné Traditional Concepts.

Teacher Perspectives

The responses from the adults in regards towards teaching students about physical activity and healthy living focused on culturally driven responses and beliefs geared toward early learning in Navajo living in life. The physical education teachers taught games and physical activity based on the non-culturally driven curriculum, dominated by sport-related content.

Physical Education. The high school physical education program did not have a curriculum to guide the teachers in content and direction. Laura and Adam's teaching followed a sport curriculum. Laura shared that

> "We don't quite have a curriculum, per se, but we tried to establish one. We've tried to work with the middle school, elementary, tried to, you know, have an alignment there. And that was hard to do... But I *think* we're kind of working better with the middle school. We're trying to do the same thing…but, as far as us having a curriculum that's established, we don't have one, not for the PE program yet. Uh, so *that's* something that we probably need to work on" (Laura).

She also added that she was able to "get four sports in. But right now, I average about three" each semester. Early in Adam career, he shared that his curricular focus was to teach sports, such as, football, basketball and baseball and he added the following about his program:

> "I do team sports…with an emphasis on physical conditioning. So, that's kind of how I've *always* done my curriculum. You know, just trying to do a little bit of both, you know. I do, um, uh, team sports, and then I do, um, individual, like lifelong sports… [such as] running, swimming, golf, um, badminton, you know, uh, stuff like that…I kind a touch upon some of those, um, sports too, and that

> way they know that there's, um, there's other options, other than just basketball and football." (Adam).

The content of his teaching was focused and driven to "incorporate" the emphasis on traditional sports or seasonal sports that he endured as an athlete in his past. Both physical education teachers had backgrounds of college sports and extensive participation in athletics. The content of their teaching geared towards competitive sports with lack of regard to teach outside the realms of competitive games.

Narrow-minded. Laura described students' attitude as "narrow-minded" and lack of desire to engage in games or sports in a competitive manner. Instead students engaged in games only to socialize and to interact with peers. Laura made this generalization about student involvement with the following statement:

> "If you're competitive, it's a lot of fun, but if you don't even try, of course, you're not gonna have fun" and "you guys come to the games, but you just socialize. You don't sit and watch the game. But if you can understand and know what's going on, you have a better idea of what the game's about. And you can enjoy it a little better" (Laura).

Adam described that students' seemed to be more interested in traditional team sports, such as basketball and football. Further into the interview, he then stated his decision to place more emphasis on physical conditioning due to the growing obesity problem among the youth at Sandy Ridge School. A project Adam was working on at the time of the interview had students tracking personal progress through fitness testing during physical education class. He also stated that he wanted to "see what kind of effects" his physical conditioning project will have on the students' behavior and motivation.

Concern for Students Health. Teachers had varying types of concern for students. The emotional health of Laura's students had become a great concern for her as she

learned about the challenges students face at school and at home. She believes that Navajo students who leave the reservation for college do not adjust well and lack the maturity needed for them to adapt and as a result they experience failure and return back to the reservation "because they can't adjust, and they become the minority. And they don't [and] they've never felt [and] they don't know what it's like to *be* a minority." In health education classes, she stated that "when I teach health, I'm focused on the mental health because it's about their self-esteem. It's about their personality. I want them to learn more about themselves." Other issues Laura believes her students are faced with are "stress", "anger", "frustration", "illnesses", "hyperactivity", "suicide", and feelings of not "belonging" is void.

Laura believes that one semester of health education gave little time to teach about the factors of diabetes, nutrition, drug and alcohol abuse, hypertension, and suicide which she described as a "serious" problem in the school.

Adam felt that health factors (alcohol, drugs, tobacco, crystal meth) need to be addressed more because "obviously alcohol's a big issue out here. I mean, I think there was a stat that I read where alcoholism rate, uh, in *Pine Cove* is four times higher than the national average" and "that's pretty popular in rural areas and areas where poverty is pretty high." He also described a notable trend on overweight students by grade 6 coming into physical education that "more kids were overweight…kind a seemed like they were overweight, out of shape, were not performing as well on the um, fitness tests." Adam also mentioned that this trend was similar in among the high school students as well as to those in middle school.

Navajo Language and Diné Studies Teacher. Tina was taught about traditional concepts growing up and has geared her teaching based on her experiences in traditional practice and knowledge systems, primarily of the Four Directions. She felt that her students were focused when learning about the traditional aspects of running. The Navajo traditional meaning and purpose of running is tied in with culture and language with the four cardinal directions. Tina stated that the four directions is based on

> "Colors, seasons, months…of the directions, like ha'á'áh, shadí'áh, e'e'áh, náhokǫs. And then our land, like the four sacred mountains, all these place names around here. Um, we go through all that as a review. And, um, and the students really enjoy that. You know, I—I tell them about, you know, the eastern direction, which is very important. And I think most of my kids probably know by now that, you run *that* way in the morning. And you do it at dawn" (Tina).

Students' prior knowledge about the four directions was to "memorize the mountain names and what directions they were." She also learned and taught that physical activity is

> "An activity where you use, your whole body, yeah, whole-body movement. You're not just sitting there and using your hands or your arms. You're on your feet, and doing something. It could be running, walking, dancing, climbing, or lifting [and] I really believe in…taking care of yourself, taking care of your body" (Tina).

Russell's teaching and coaching philosophies have been formed by the extensiveness of his family's background in running and the traditional ties that come with it. He grew up with similar endeavors to maintain this stamina by teaching his students and athletes by maintaining good health and the benefits of running. In terms of coaching, he described his teaching as a "hidden agenda" with "the traditional aspect of just waking up in the morning, and getting up, and running" that his athletes are "gonna be blessed in terms of…their mindset, starting their day off on a positive note, and just

there's something to be said about when the sun's coming up, and you've put in—or you've *already* started your day with physical activity. It kind of sets your mood up for the rest of the day. Students were more relaxed…they were less anxious."

Russell's goal is to incorporate the cultural part of early running with "a morning prayer before [students] set out. And having your white corn pollen and praying for good thoughts and believing that that's *gonna* have an effect on [students] well-being throughout the day too. I feel like *that* would be the next step if I *truly* wanted to incorporate the cultural part of it." His experience with "prayer" and "ceremony" included the teaching of the concept of "hózhó" which he described as "key" to "balance". He incorporated these concepts in his own "professional life, as a teacher and as an educator" that "physical activity part of it keeps me in balance." He described that some students are out of "balance" in terms of health and nutrition that "some of them are just overweight and obese. And I think to myself that these students are not getting enough physical activity, you know, even something as simple as a morning *run* can really make a difference in their overall health."

Community Member.

Mary believed it was her grandmother's traditional teaching that instilled her foundation and knowledge about physical activity that was based on the principle of hard work. She continued this foundation through mentorship and with the desire to work hard and to maintain a physical activity lifestyle. Mary believed that today's adolescents and youth were not taught in the traditional way. Therefore, the role of *mentorship* in the participation in "recreation" was precedence and a "key" component to "engage in a relationship(s) with the kids."

With the changing health issues among members of the Navajo community, Mary believed that today's youth need to be taught "social skills" and "character development" of being physically active rather than to be told to "go run thirty minutes, and burn this many calories." She included that Navajo youth need to be taught about the cultural and traditional aspects of healthy living and added that:

> "Some of our parents would rather have us not teach the kids about the four sacred mountains, their clans…they opt out. And some of our parents have spoken to us and said, 'We will not allow our child. And just extract them from the group or take them out of the group when you're having those things.' Because um, you know, they—they see it more as a religion, not a way of life" (Mary).

Mary stated the value of cultural teachings as *respectful* and the importance of partnership as a needed practice in educating youth.

Impacts of Diné culture

Growing up in the Diné culture impacted their lives into adulthood. A common subject was that of engaging in running as a means of establishing a healthy lifestyle which is a central tenet of contemporary Diné oral history and important to waking up and running before the rising of the sun. Laura stated,

> "The practices of getting up before the sun. And there's some words that my grandparents used to tell me about. About um, how, you know, when you get up in the morning, you say your prayers. And then, even the jokes regarding that. You know, some used to have—our people joke a lot. I tell'em, I said, "Our people joke a lot." I said, "It's part of health—one way to relieve stress is through humor (Laura).

The holistic healing properties of running at dawn which is said to strengthen the body, mind, and spirit, creating resilience, discipline, and harmony. Laura shared "that was a big part of our upbringing… to have us, you know, as far as physical activity, she told us get up early before the sun came up, do our running, say our prayers, and stay active all day long." Tina's stated that how her early experiences of morning runs gave her strength:

> "Father would wake [her] up very early before the sunrise to run towards the east. Her father explained the importance of running towards the east before the sun rises over the horizon; the sun should never see you running, so she had to be home before the sunlight. This ceremonial practice began after kindergarten when she was about 5 years young. Her father taught her the importance of carrying on this traditional rite which she had continued throughout her adulthood. The significance was to be physically fit in order to maintain strength of body, mind and spirit" (Tina).

Enduring long runs throughout childhood and adolescence prepared her for life's obstacles, such as her experience with divorce. All Diné interviewees reported that they continued to maintain the ability to run or walk often as daily forms of exercises.

Laura, Tina, Russell and Mary also reported the daily occurrence of instruction and scolding as they were growing up, with the insistence that one remain active and industrious throughout the entire day. The common practice had instilled within them the discipline of hard work and daily chores, such as, chopping wood, building a fire, feeding livestock before and after school, in addition to, herding sheep. Laura stated,

> "We would stay at my naliis' house. And that's where we herd sheep. We did everything that, the way my grandmother grew up…then we'd climb back up the canyon. And so we'd do that every day, so we always, I did herd sheep for at least two weeks with my grandmother. And, um, we helped. This is where I learned how, learned about hauling water, chopping wood" (Laura).

Russell stated,

> "We're the ones who, uh, go out and, if something needs to be repaired or fixed, or, if we have to go and, you know, gather the sheep, or look for the sheep, or, um, you know, repair an outhouse, or chop wood… You know, *we're* the ones doing all of that physical labor, 'cause our *uncles* are the ones telling us what to do. We're the—the ones getting our hands dirty and making sure that it gets done" (Russell).

Mary added the following statement:

> "I remember herding sheep and, um, planting corn, and all *those* type of things. And we still do that today, so in *that* sense of—of exercise, our—my grandparents were the type of people—especially my grandma. She was the type of person that always told us, you know, "Abíínadloo 'ínjiidáhdóó." You know, you have to, you know, she would get after us, you know: "Yvonne, you get started with the fire. And then she would chase my *little* brother down to, um, sheep corral, open up the corral. Um, and then we'd have breakfast, and then we'd pack our lunch. And then we'd be out for a good three to four hours, um, walking behind the sheep" (Mary).

These daily tasks or jobs taught responsibility and self reliance. All Diné interviewees discussed instilling a strong work ethic, as being taught to them through daily practice of traditional Diné teachings, which incorporate physical activity, discipline, and spiritual well-being.

Laura shared examples of how resilience enabled her to overcome racism through her high school career. She described the following during her high school experiences:

> "I got made fun of, I was called all kinds of names such as, '*You savage, you dirty Indian, you drunken Indian, You're just nobody.'* I grew up in that environment for a long time. And…so I think that, that's what drove me! I was one of those, I-I did well, performed better, on negative reinforcement. And anytime someone put me down, I said, *'I'm gonna prove to that person I'm better than them or the same. But I am no less than they are.'* And I would push myself, drive myself. *'You can't do it, you're an Indian. Indians can't do anything!'* And I'd say, .. but within my thoughts, I'd say, *'I'm gonna prove to that person I'm better than they are.'* And *that* was my drive. That drove me my whole life" (Laura).

These participants illuminated teachings from their grandparents and parents, impressing upon them the importance of self-discipline and fortitude, transpiring through resilience and Diné tradition.

Parents as Role Models

The second theme that arose across adult participants was the influence of their parents on their own physical activity participation. Interviewees with physically active parents, describe also being instilled with the values of exercise on the mind, body, and spirit. Those who reported early life experience of inactive parents still purported positive values spanning generations. Diné parents taught values consistent with thought, planning, action, and growth. Laura stated,

> "My mom practiced our traditional way of life down there. She always talked to us in Navajo, you know. My *chei* was actually a medicine man, so we'd partake in ceremonies and whatnot down there even though we were off the reservation. And so, basically, I learned a lot of at least that part of my life, as far traditional goes. Tradition goes. I learned about our, my way of, as a Navajo, about our different types of ceremonies (Laura).

And Tina stated that her father

> "Was a very traditional man, he didn't speak, you know, English. He was all Navajo. He never went to school. So everything he taught me was, you know, it was all—it wasn't from school…he didn't really,…give me lectures on prayers and all that... But, um, making *me* run out there, that's what he pushed me for…That's probably a traditional strategy, you know, you don't really preach, um, these things…It's very important that you're—that you keep yourself strong. And, in the mornings, before the sun rises, that's when.., when the best time is to go run. And you go run to the east because… that's where, um, the morning Holy People—the spirits are. And, you get blessed by them, um, with good thoughts, strong mind, strong body. And, so, you know, that—that was what he taught me. Uh, and then he told me, "Make sure you run home and get home before the sun comes up because the sun isn't supposed to *see* you running" (Tina).

Adam (a teacher of Anglo descent) described his parents' style as open communication and support. In many ways, parents serve as their children's first and

foremost teachers. The adult participants also had parents whom were highly influential on the physical activity participation that they took part in while they grew up. They reported that their levels of physical activity increased more when their parents were also physically active. Tina described early memories of her father running in excess of 50 miles to work at a ranch and having,

> "A strong belief in being physically fit…Yeah…he would tell us that he would run miles when he was young. I mean,…there were times when, he would take care of businesses on foot, running miles and miles…he would run from Aneth, all the way to Cortez to…to do things (Tina).

She was required to run every morning before sunrise, and has continued to run as an adult. Mary engaged in heavy ranch duties as well as morning runs as a child. She stated that the foundation was laid by my—the work ethic, influenced by her grandmother,

> "I don't know if you're *born* with it, or… I don't know if um, you know, it's instilled in you by your—but for me, it would be my my…my grandma. My grandmother and my uncles. Um, they had a really, um, *strong* work ethic, meaning that you're not lazy, you don't lay around, you don't, you know, if you're not a girl—if you're a girl, you don't just lay around. You stay busy. I know part of that is cultural too: um, our cultural and traditional teachings" (Mary).

Mary continued ranch duties as an adult, also continued to run and walk, and partake in intramural team sports. All Diné participants reported traditional Diné upbringing, which entailed heavy work and exercise. They all reported current participation in running, walking, team sports, and community sports events.

Conversely, as parents are primary teachers, two interviewees discussed their perceptions of growing up with inactive parents. Adam, whose parents did not engage in

physical activity, described the support and encouragement they gave him and his sister in terms of sports involvement. Adam stated:

> "My parents were—when I was growing up…don't think they were really that physically—physically active…I don't really remember them any of them, like, encouraging like sp—I think they just kind of um, uh, let us make our own decisions as far as that goes. But as, uh, I think with us expressing interest in it? They supported it. But my parents were never like the type of parents that were, um, overbearing, or like '*You've gotta do this. You've gotta play this.*' You know, but they like—it was more like we showed interest in it, so they supported it (Adam).

Mary depicted clear distinction between the health and wellness of each parent. Mary described her parents with the following:

> "My parents—my mom would walk, run, when she could. My dad, however, um, was a construction worker and was hardly ever home. He was a heavy equipment operator, so he was always out. Um, later on, when I got to high school, um, my—my parents, um, they went through a divorce, and, um, I didn't see my dad for quite some time. And, when I *did* see him again, um—well, I *knew* already that he had developed diabetes. And he, um, had a--by the time I was in college, he had a triple--he had had a triple bypass" (Mary).

Mary's father was diagnosed with cancer. Thereafter, she was raised by her grandmother because her mother who worked in the forestry industry required her to be away from home for extended periods of time.

Three participants reported their mothers as being physically active caring for the home instead of engaging in organized sports, like their fathers who were actively involved in community team sports leagues. Parents who were not physically active continued to promote healthy lifestyles inherent in the Diné tradition. They also provided support and encouragement with regards to physical activity and sports participation.

All Diné participants reported a consistent instilling of Diné tradition of expectations that youth endure daily running, hard work, and discipline; learn importance

of prayer, planning, action, and responsibility; have the experiences of running before sunrise, full participation in household chores and remain active throughout the day. The one Anglo interviewee described a youth in which he was constantly active, engaging in play with neighborhood friends. He describes his small town as offering a variety of sports leagues, with his parents actively supporting his interests in sports.

Extended family was a common theme among Diné interviewees. The maternal grandmother raised Mary, while her mother was often away at work. Mary's grandmother would

> "Talk a lot about that, about Changing Woman and… other teachings…[about] the Dawn or the Night, she used to talk about things like that. And, in *that*, in those discussions…we used to *have* to pray. We—and then we'd *have* to go outside with her, and we would have to pray. She taught us *how* to pray,.. [and] the kinaaldá ceremony—up to that time, my *uncles* were the ones that, um, would kind of get you ready for how long you're gonna run during your ceremony" (Mary).

She explained her *kinaaldá* as *Diné* female puberty ceremony, with uncles guiding her in building stamina for the runs that were to occur during the ceremony. Adam, of Anglo descent, described memories of growing up with "my neighbor, Amber …my little cousin, Kyle, and even my other cousin, um, *his* sister, um, my cousin, Carly. All four of us excelled in uh, high school and college sports." Russell eloquently applied the term "k'e" to contemporary Diné society. He "learned too, [his] role here as a teacher, not so much as a coach, but for a lot of these students, being that voice of truth and honesty. And I feel like, for *my*self, in *my* family, I do look to my aunties and uncles for that truth and honesty" was the determining factor for him to remain frank and honest about student development. While Euro-American society holds the nuclear family as

central, the interviews revealed an active participation of extended family in the socialization of Diné youth.

Teaching of Diné Traditional Concepts

All adult interviewees, regardless of race, mentioned at present Diné youth were collectively seen as disconnected and uninformed with respect to traditional Diné concepts. Laura stated that

> "Our kids don't, are…aware of our ceremonies. They don't understand it because they don't speak Navajo… And I get upset with them when they make fun of us, right now. I see our kids are lacking just respect. They're very disrespectful."

She addressed parallels between western knowledge and Diné oral history, challenging students with awareness of western discoveries and theories that have been recounted for centuries in traditional stories, such as the "living healthy" concepts Navajo elders," were already teaching us about being [healthy]" and "Walk in beauty" is in "health education", "Maslow's hierarchy of needs… about our basic needs and our mental needs" and "aesthetics" related to "walking in beauty." Laura included some traditional concepts into her daily teachings. She taught about the importance of the clan systems and relationships.

Tina openly taught about Diné oral history and customs in her classroom. She further incorporated higher-order Diné principles, urging academic success through self-displine, planning, action, and reflection. All participants reported an effort address Diné concepts in class, with non-language speakers focusing on Navajo community issues that were relevant to students' lives.

Russell expressed enthusiasm in applying higher-order learning with respect to Diné concepts. He described that in class, he challenges students to consciously employ

traditional mores to facilitate learning. He described the responsibility of kinship to provide honest feedback to facilitate change and growth. A "no-negative" policy instills the traditional Diné ideal of self-control and positive thinking. Teasing is used to instill a traditional ideal of not taking one's self too seriously. Students are urged to apply key tenets of Diné philosophy to their lives: planning, action, evaluation, and growth.

Adult Participants' Vision

The adult respondents addressed the importance of the concept of self-worth. Laura attended an off-reservation high school and her position during high school was viewed as of a lesser value by her peers and led to negative discourse.

When inquired about their aspirations for their students, participants' responses were similar. A primary wish the educators had for their students' involved developing self-worth. Adults expressed a primary desire that students be proud of their history and culture, that students have true knowledge of where they come from and where they want to go in their lives. Laura gave an excellent example of asking students to imagine themselves as grandparents presented with the question, "What does 'Navajo' mean?" With this, she challenges students to acquire deeper self-awareness, ensuring the survival of Diné culture for future generations.

The adult participants unanimously expressed the hope that their students graduate from college. Russell illustrated how he incorporates collaboration, teamwork, inquiry, and other skills in his classroom, because these are the skills necessary for college success. Tina used the *four directions* in explaining the stages of life and the importance of developmental challenges during high school. The southern direction corresponds with planning according to Diné philosophy. Students are challenged to

engage in the planning of their future lives, with a focus on college success. Adam illustrated how student portfolios provided them with hands-on learning of college-level work. He further stated that progress in fitness and skill-level benefits self-esteem, which he feels is central to college success.

A last common aspiration that adults had for Diné youth was that they grow into responsible individuals who value community. Tina spoke of the need for students to understand that their lives are important and that Diné people are meant to help each other to ensure survival. Laura described her desire for Diné students to know who they are, and to know that they have the ability to be that upstanding person who helps the community. Adam spoke of the needs to Diné students to gain self-worth by embracing their Diné heritage and becoming aware of community health issues of the people. Four adults stressed the importance of lifelong physical activity in achieving balance and success.

Discussion of Findings from Chapters 3 and 4 (all Stakeholders)

The purpose of this study was to examine the perceptions and interpretations of physical activity, physical education and healthy living of high school Navajo students, physical educators and community members. This study holds significance due to the lack of available research on Navajo adolescence and perceptions about physical activity, physical education and healthy living. The first part of this section includes a discussion of findings from student interpretations followed by the discussion of the physical educators and community member's interpretations.

Cultural Identity, Place and Family. The identification of student background of Diné carries weight in regards to one's unique identity and cultural background. Each Navajo

youth participant is a representation of a "dominant society's image of indigenous peoples, their lifestyle, and belief systems" (Manuelito, 2006, p. 7). The life and knowledge systems belong to Navajo worldview perspectives, which include Navajo culture, family structures, and environment. According to Turner, Ignace and Ignace (2000), "indigenous people connect to their ancestor lands" and where a local relevancy of place and environment is the concept of "Mother Earth" (p. 1276). This concept is also known globally among indigenous communities. Further, the families of the participants continued to reside in a location within boundaries of the Four Sacred Mountains, a place where they understand and also define themselves in relation to their home environment (Turner, Ignace, & Ignace, 2000).

Also, within the Navajo culture, girls experience the Navajo Kinaaldá, the traditional ceremony of puberty from childhood to adulthood. This ceremony may be identified closely to Markstrom and Iborra's (2003) rites of passage which "*separates* individuals from their previous identities, carries them through a period of *transition* to a new identity, and *incorporates* them into a new role or social status'' and has "become the basis for describing and analyzing initiation ceremonies attached to the transition from childhood to adulthood" (p. 402).

Understanding Physical Activity

Body and Movement

To contextualize the meaning of physical activity, each participant reflected on movement or experiences (physical exercises or sports). These descriptions identify movement of the body through a more structured form for activity (Brustad, 1993). Secondly, physical activity is a means to sustain personal health and longevity. The

network of social contacts, such as family, friends and community shaped their understanding and influence to identify the effects of physical inactivity. The participants understand that lack of physical activity may lead to poor health and associated illnesses. Some participants identified their grandparents as influencing them to be healthier by being physically active. Also, with sustained physical activity, individuals may grow older with better health, and thereby live with fewer health problems. In traditional teaching and aspects, the domains of Diné philosophy reflecting harmonious living and achieving balance create potential to reach old age with all physical attributes and inherent mental capabilities. This means physical activity is the active movements of the body throughout life in order for the body to grow old as one lives life. Traditionally, *Hózhó*, means beauty and harmony, which includes a representation of the balance between the male and female side of life. It allows for one's journey of life to grow into old age with all physical and mental qualities enabling one to see and experience life with grandchildren and great-grandchildren.

The participants who engaged in youth sports at young ages were all involved in school-related sport activities and also associated physical fitness with the qualities needed to engage further into sports. Physical fitness was a desired component that would be needed to engage and meet the demands of sports competition. One participant identified maintaining levels of fitness to improve health factors and increase health benefits. The description of freshman physical education classes was related to fitness based instruction to improve strength, cardio, and muscular endurance. The three most identified skills were *running*, *push-ups* and *sit-ups*.

Organized Sports and Play

The interpretation of *sports* and *play* varied among the respondents. The means to define physical activity was described as the participation in organized sports and engaging in playful activity. Students' prior sports participation at early ages and youth impacted their knowledge and understanding of physical activity. Most respondents directly described their experiences playing in team sports that began as early as second grade. As the respondents grew older, they reported enjoying the competitive aspect involved in organized sports participation.

Diné Youth and Physical Activity

Youth Sports and Running

Participants (Nelson, Jennifer, Angel, Jazz Lee, Michael R, and Walter) who played or engaged in sports at young ages continued to participate in high school sports and athletics. The sport participants also had parents who engaged in youth sports and high school athletics and continued to model sport/physical activity behaviors. These findings support previous research studies of physically active parents contributing to the physical activity and sport participation of youth and children. Portman (2003) reported that participants with parents who were highly active in youth physical activity were found also to be active in physical activity (p. 150). Although two students did not participate in high school athletics, they both continued to maintain daily physical activity and personal fitness. The overall focus and purpose of physical activity each student stated was that they participated in physical activity or sport to maintain physical fitness.

A common physical activity among all respondents was outdoor running. This practice began and was encouraged, for most, by their parents or grandparents. The

reason the participant engage in running activities was for the benefit of personal health, maintaining cardio and muscular endurance, and/or that running was an enduring part of the family pastime activity. Culturally, the family pastime of running activity was common practice for Navajo people and families. Based on Navajo tradition, running is recognized as a traditional and lifestyle activity that was and continues to be encouraged by parents and primarily grandparents, lessons that begin at childhood (Schwarz, 1997). The tradition was performed every morning for the sacredness and offering purposes. The respondents, however, described their interest in running for 1) health benefits or to maintain fitness for sports competition and 2) that they were influenced and taught by parents and grandparents. The participants themselves have become disciplined in the act and fulfillment of running and to continue the practice into adulthood. The two respondents who did not engage in youth sports gave a description of their childhood as sedentary or one that lacked physical activity. The result of physical inactivity was the detrimental barrier that led to childhood diabetes and obesity (Haskell, Blair, & Hill, 2009). The two respondents, however, changed their pattern of physical inactivity during their childhood years and became more involved in physical activity as young adults. These findings do not support prior research that physically inactive youth will likely continue to be inactive into adult life (Sallis, Prochaska, & Taylor, 2000).

Cultural Identity and Conflict

The cultural identity of the participants represents Navajo identity. What precedes the identity for Navajo adolescents in a society that has mainstreamed westernized society is their traditional history which is deeply rooted in Diné songs, prayers and values, rituals or ceremonies, beliefs and belonging. Native American students maintain a

strong identity of Diné through the following of their parents knowledge and influences. The educational system surrounds them with westernized concepts and language systems. Within the identity of the Navajo participants, all were English-only speakers. Westernized education, such as English-only standards, diminished the cultural value of their education with the embodiment of limited Diné languages. Indigenous languages hold strength, power and value to one's identity and knowledge. Navajo language is interwoven in the cultural identity of Navajo youth and children. Loss of language includes disassociation with Diné philosophies, lifeways, songs, stories, and healing rituals (Kuhn-John, 2010).

Students' Perceptions of Physical Education

Off-Reservation & Navajo School Experience. A considerable difference was found in the physical education experiences of the students who attended off-reservation compared to those who attended reservation schools. The cultural body of the physical education social environment among the students in the city schools held the component of competition as regard for participation. The component among Diné students in the on-reservation schools had regard for peer inaction and influence to participation in physical education classes. Also, the social difficulty of Katelyn's experiences while attending a city school of not fitting in due to being overweight is supported by Morris (2006) that students who are overweight tend to engage more in physical activity among peers within their own communities. In comparison, Katelyn enjoyed the physical education program more and participated more in the reservation school.

The Navajo students described physical education as a time to socialize with peers, to collaborate with one another in group activities and to encourage one another to

complete activities, such as fitness testing. On the other hand, the social environment within city school physical education was reported as more competitive in nature during games and activities. McInerney (1997) supports that Navajo high school students receive social support and encouragement from other peers, thereby, motivating one another to succeed.

Conceptualization of Healthy Living

A General Point of View. Students identified healthy living with aspects indicative of the cultural body such as keeping active, good nutrition, maintaining a healthy mind, and having structure and balance. The Navajo adolescents viewed that healthy living overall as keeping the body actively involved in exercise and proper nutrition. The Navajo culture and tradition of Hózhó are based on the daily practice of physical activity and wellness. Physical fitness and mental strength, as well as having a sound mind, originate through the aspect of respect and care for the human body (Aronilth, 1991).

Although participants lacked complete comprehension of the concept Hózhó in Navajo interpretation, the participants understood that Hózhó was associated with people's health. Kahn-John (2010) interpreted this as the lack of familiarity to the cultural knowledge to include the whole person, including the body, the mind, the spirit, in addition, to the environment and community. Current educational demands of English-only curricula has suppressed or has led to the diminishing construct of Navajo youth's ability to speak and understand the Diné language and voice in school. Respondents described the non-school entity's programs carry the term *Hózhó* in its teaching practices to encourage Navajo youth to adopt proper health and wellness practices. Today's

practice by community health education is to instill the knowledge and reestablish Hózhó and its significance leading, to the self-sustainment of healthy living practices.

Stakeholders' Perceptions of Healthy Lifestyles

Teacher's Perspectives and Teaching Practices

The teachers' and community member's viewpoints about physical education, physical activity and healthy living standards were significantly focused on wellness and the "greater well-being" that were based on the representation of Indigenous worldview, that of Navajo. According to Adam, Fryberg, and Garcia (2006), "one can hypothesize that people who have resided in reservation settings should report greater engagement with Indigenous identities and experience the hypothesized benefits for well-being and action more than people who have not resided in reservation settings" (p. 495).

Observations during class visits indicated that physical education teacher's practiced a sport dominated path of teaching traditional sports and although they had an expanded focus on physical fitness, they showed little support for students engaging in a variety of physical activities. The role of teachers limited the recommended physical activity participation to 60 minutes daily for adolescents. Physical education teachers stated concern for students' health and well-being and therefore, focused their intentions on physical conditioning for their students. However, the lack or limited display of physical activity that was observed during class time contradicted their intentions. Also, the high school's policy on freshmen only physical education may perhaps be doing more damage than good by preventing healthier, longer more satisfying, and more productive lives (Allensworth & Kolbe, 1987; McKenzie & Lounsbery, 2009).

Impact of Diné culture

The physical education teachers, the culture teacher and the Diné studies teacher all perceived that the Navajo lifestyle and culture incorporated the precepts of healthy living. One characteristic was outdoor *running* which was identified as an important act in traditional life, practice and belonging. Navajo have endured the precept of running that is maintained on a daily basis. This practice has been significant in Navajo living and a valued traditional way of life (Dyk, 1938). Another characteristic was *holistic healing* which was identified with its significance to maintain the body, mind and spirit. Holism is a culturally relevant precept to the practice of Diné health and well being. Kahn-Jahn (2010) described insight to Navajo health and healing through the balancing the body, mind and spirit with the inclusion of ceremony, song and prayer. A third characteristic was responsibility which is one of the four principles important to Diné philosophy that is taught at all age levels. A fourth characteristic was resilience. The respondents told of stories that were taught by grandparents that focused on the cultural body of Diné to endure running as lifestyle choice, to incorporate daily work habits and to prepare the mind for daily stressors, hardships and negativities one will experience in life and to overcome hindrances with positive accord.

Parents as Role Models

All respondents were encouraged and highly influenced by their parents during their own endeavors to take part in youth sports and physical activities while they were growing up. Most described their parents as physically active with life experiences, including taking part in physical activity, sports and lifetime activities. This confirms prior studies of students who had physically active parents are more likely to engage in physical activity. Portman (2003) found that parents who were physically active were

involved in their child's pattern of physical activity by playing with them, watching them participate or took them to physical activity or sports events.

The non-physically active parents partook mainly of lifestyle activities around the home environment. The Navajo parents, traditionally, upheld the Diné practice and ways of healthy living in the home. Although not totally immersed in Diné culture, Diné parents strived to maintain the conditions inherent in traditional living in accordance to the principles of Hózhó. The Navajo respondents reported that their parents engaged in traditional ceremonial healing which is considered a valued cultural practice.

The cultural upbringing of the Navajo respondents included describing growing up as being immersed in daily running before the sunrise, hard work and discipline. This was consistent with the traditional teachings and ties instilled as Navajo children grow up which is the importance of daily prayer, planning and responsibility. On the contrary, the Anglo respondent described his childhood activities as engagement in games and sports with friends in the neighborhood.

Extended family played an important role in the overall well being of Diné tradition and living. Closeness and family ties among Navajo families generally include extended family and have respect for one another as well as immediate family. Respect for older adults and elderly was highly regarded as important. Also, the identity of Navajo represents ties to the culture, extended family (k'é') and to Dinétah (land within the Four Sacred Mountains).

Early Physical Education Experiences

The diversity of the physical education activities experienced by the adult participants varied. Those who attended school away from the reservation experienced

participation through a variety of sports, a diversified area of physical activities and extracurricular activities. Participants from off-reservation described physical education as fun, recreational, with a diversity of sports offered, whereas, the experiences of students from reservation schools as a sport specific focus, according to the sport they participated in (cross country, tennis and/or volleyball). Physical education teachers developed a program intended to increase fitness levels for a desired sport or the curriculum was designed as sport-specific activities. Their intent was also to discipline their students through physical fitness in order for them to face realistic demands in the Westernized society or the non-Indigenous world. All adults spoke of their physical education experiences in positive ways.

Teaching of Diné Traditional Concepts

Westernized education has changed the pattern and mindset of Indigenous thinking and ways of life, including how schools in the Navajo community deliver physical education programs. Formal education followed westernized thought and was more prominent in the school. The physical education teachers taught students to be more competitive during game play in school and to focus on individual achievement with the routine of improving one's fitness and skill level. McInerney (1997) described the competitiveness from the standpoint of Navajo adolescents that "the concept of competition is tempered with a strong sense of affiliation to the Navajo group" that "it seem[ed] that individual achievement is not sought at the expense of the community" (p.6). In comparison, the teachings in the Diné language class were more culturally relevant and influential to their understanding and students experienced activities that were group oriented and lacked individual focus. Students in physical education and

culture classes expressed social concern for the group, a desire to help others to achieve, and a strong interconnectedness among peers. On a noncompetitive basis, teachers taught the concepts of discipline, perseverance and self-sufficiency so that Navajo students can prepare for the societal demands of a multicultural world.

CHAPTER 5

PHYSICAL ACTIVITY PATTERNS OF NATIVE AMERICAN YOUTH

Little is known about the actual physical activity levels of Native American youth and childhood obesity (Hay & Shepard, 1998; Haskell et al., 2009). Declining physical activity patterns are evident as childhood obesity increases. Physical activity levels are low among all US children (Sallis, Prochaska, & Taylor, 2000), and most do not meet the national recommendation for physical activity (Haskell et al., 2009; Troiano et al., 2008). Although Native American children physical activity levels have not been well studied, Navajo live more sedentary lifestyles (Mendlein, Freedman, Peter, Allen, Percy, Ballew, Mokdad, and White, 1997). The physically active lifestyle of Navajo youth is continually replaced by less demand for physical activity. Little is known about objectively measured physical activity patterns of Native American youth using pedometers, accelerometers, questionnaires, physical activity recalls, or surveys. Johnson, Kulinna, Darst, and Pangrazi, (2007) assessed physical activity levels of a sample of 8-12 year old Native American students and found that students spent less time engaging in sport or leisure physical activity and more time watching television than Caucasian students.

Physical inactivity has been a growing problem and continues to grow among all ethnic groups and population in the United States. Large percentages of youth across the nation have become less physically active and this large scale is seemingly increasing by the moment. In association with the physical inactivity factor, obesity and diabetes are common health-related illnesses with rates higher among minority populations than any other subgroup of the U.S. population. Nearly 50% of Native American youth and adolescent are obese (Styne, 2010; Thompson et al., 2001).

According to U.S. Census Bureau (2006), Native American populations make up less than 1.5 percent of the total U.S. population. However, among all populations in the United States, the highest recorded rate of diabetes and diabetic health issues in the world is the Pima Indian community in Arizona (Acton et al., 2002; Burrows et al., 2000). Since physical inactivity seems to be the foregoing factor leading to chronic health problems, changing the inactive lifestyles behavior patterns to one that is a positively habit-forming physically active lifestyle is critical for this population for its future status. Furthermore, the Pima Indians of Mexico, of the same heritage-linguistics of U.S. Pima Indians, live a more traditional lifestyle and have a significantly lower prevalence of obesity and Type II diabetes than U.S. Pima Indians (Schulz, Bennet, Ravussin, Kidd, Kidd, Esparza & Valencia, 2006; Story, Stevens, Himes, Stone, Holy Rock, Ethelbah & Davis, 2003).

Obesity and Youth

The obesity rate has reached epidemic proportions in the U.S. and globally. Its prevalence among children and adolescents has grown within the last decade. Obesity was prevalent among the adult population twenty years ago. Of the 60% increase in obesity since 1985, 25 percent were US children (Center for Disease Control, 2007). Obesity is a risk factor for Type II Diabetes which is a serious chronic disease that has affected 13 million people (Mokdad et al., 2000). Of all ethnic groups, Native Americans suffer disproportionately, with Pima Indians having the highest percentages worldwide (Burrows et al., 2000; Valway et al., 1993). The characteristics of American Indian children who are obese include physical inactivity and a family background of diabetes.

Obesity is associated with the lack of physical activity and concerns for obese and overweight children and adolescents is a major U.S. public health problem issue with

rates tripling in the past 20 years (Davis et al., 2003; Larsen, McMurray & Popkin, 2000). The Native American population has a higher percentage of obesity rate compared to the general population (Stevens, Suchindran, Ring, Baggett, Jobe, Story, M., 2004; Story et al., 2003).

Researchers associate high physical activity levels with low percentage body fat. Increases in *body mass index* (BMI) are also associated with overweight children (Going et al., 2003; Strong et al, 2005). A survey of Native American children, 5-18 years of age, showed 39% with a BMI over the 85th percentile (Jackson, 1993; Flagel et al, 2001). In a more recent study, Stevens et al. (2004) found that 221 girls had a mean BMI of at baseline = 19.0 with a follow up = 22.2; 233 boys at mean baseline = 19.3 with a follow up = 22.6. Of all students, 31.7% of boys and girls overweight at baseline, increasing to 36.4% overweight at follow up. Continued physical inactivity and obesity are the primary risk factors leading to possibility of the developing diabetes.

Physical Inactivity and Youth on Indian Reservations

Native American youth living on reservations are faced with issues that are detrimental to their daily lives. Factors such as poor education, lack of social well-being, and poor health conditions have had negative influences that result in high rates (45%) of school dropouts and poor health (e.g., Bielenberg, 2000; Dingman, Mroczka, & Brady, 1995). In association with these negative indicators, youth are increasingly less physically active while poor health issues tend to scale upward to higher levels. Such negative effects are noticeable with the increased onset of childhood diabetes and obesity (e.g., Esparza et al., 2000; Fontvieille, Kriska & Ravussin, 1993; Thompson et al., 2001). Cara (2000) acknowledged a 54% increase of the diabetes between 1988 and 1996 in

15-19 year old adolescents, a significant increase compared to 1967-1996 at 15% in the same age group. Acton et al. (2002) found an increase by 71% of young American Indians diagnosed with diabetes; prevalence increased by 46% (6.4 per 1000 to 9.3 per 1000). There was a greater increase among young men. The rate of prevalence of diabetes among 15-19 year boys was at 81%, with girls at 60%. American Indian children are overweight or at risk for becoming overweight as compared to all U.S. children (Going et al., 2003). Twenty-five to 45 percent of Native American children are overweight compared to 11-25% for U.S. children (Cara, 2000; Caballero et al., 2000; Steckler et al., 2003). Sixty-seven percent of American Indian children were overweight and 50% were obese (Brusseau, Kulinna, Tudor-Locke, and Ferry, 2013)

Less energy expenditures, over consumption of food and diets high in saturated fat, sugar and sodium content are additional factors associated with the increasing prevalence of obesity (e.g., Bunt et al., 2003; Caballero et al., 2003; Esparza et al., 2000; Stevens, 2004).

Contributing Factors to Physical Inactivity

Once an active people through cultural lineage, Native Americans who held to the traditional values of active living and heritage, have now become more sedentary in today's technologically advanced society. Modern technology has drastically changed society and practical living to a point where it "appears to be eroding the health of our young people" (Pate & Sirard, 2000, p. 2). This is so evident with the low physical activity (PA) levels and the increase of children watching more and more television (Thompson, Davis, Gittelsohn, Going, Becenti, Metcalfe et al. 2001). According to Thompson et al. (2001), the primary risk factor for obesity and chronic diseases is

sedentary lifestyles. Physical activity levels differ between Native Indian children and their non-Indian counterpart. American Indian children spend much less time engaging in physical activity, and spend more time watching television (e.g., Altman et al., 1998, Fontveille et al., 1993; Going et al., 2003). Sixty-seven percent of children, 5-18 years, watched television up to 2-hours per day, while 26% watched more than 4 hours per day (Fontvieille, Kriska, & Ravussin, 1993; Thompson, 2001).

This lack of physical activity participation appears to be the major contributor to increased health related illnesses (e.g. diabetes, obesity, hypertension, etc.). An estimated 19% of U.S. children aged 6-11 were overweight and 17% of adolescents aged 12-19 (U.S. Department of Health and Human Services, 2004) and in 2009-2010, 33.6% of aged 12-19 were overweight (Child Trends Data Bank, 2012).

Native American populations are placed in a high-risk category for their sedentary behaviors and poor health, the highest among all ethnic backgrounds (Strong et al., 1999). The probable cause is insufficient physical activity participation and a lack of physical activity participation in physical education classes (Ishee, 2003). Barriers could be due to lack of effective teaching skills, lack of facilities and equipment, or inadequate use of limited physical education time in schools. Children's time in school for physical education and physical activity may be limited due to other academic focuses (e.g., Center on Education Policy, 2007; 2008). Fontvielle et al. (1993) also indicated that Native American children and youth do spend significantly less time engaging in sport and leisure activities than do other minority ethnic groups. For the general population of students, Stratton (1997) reported a decrease in PA from middle school transitioning into high school.

Proper and adequate implementation of Physical Education may lead to higher physical activity levels. The requirement of physical education is beneficial to all in that it may be the only place students are taught how to prepare themselves for active lifestyles (Sallis & McKenzie, 1991). The national recommendation for physical activity is 50% of physical education class time (McKenzie & Lounsbery, 2009; McKenzie, Sallis, Kolody & Faucette, 1997). Kulinna, Martin, Lai, and Kliber (2003) showed students spent an average of 51% of PE class time in MVPA where students were more engaged in physical activity. However, the amount varied by grade and gender and type of activity performed. High school and elementary students maintained elevated heart rates during team and group activities, respectively, compared to middle school students who had lower target heart rates levels. Girls at the secondary level were more active participating in individual activities. The recommendation of 50% physical activity is attainable. Physical inactivity and sedentary lifestyles needs drastic changes. Youth and children must learn and understand that the epidemic of sedentary living is simply a path to destruction and ill health and to also understand the health benefits of physical activity.

Assessing Physical Activity Levels

There are many different techniques and methods to measure and assess physical activity levels, such as, pedometers, accelerometers, questionnaires, self-reports, activity diaries, recall interviews, direct systematic observation, etc. (e.g. McKenzie & van der Mars, 2015; Raustorp, Svensson, & Perlinger, 2007; Tudor-Locke, McClain, Hart, Sisson & Washington, 2009). The methods used in this study were pedometers. Pedometers are devices worn at waistline and used to record the number of steps the individual takes (through measures of vertical oscillations at the hip).

Strycher et al. (2007) indicated that at least three days of data collection are required for reliability ($\alpha = 0.80$ or greater) and made reference "to estimate habitual physical activity in children and adolescents, at least 4-5 days of monitoring is required" (p. 3). Pedometers are also accurate and low-cost instruments to measure PA levels. In the current study, the MLS-2505 pedometer was used. This instrument has been shown to produce reliable and valid scores in research studies of youth (e.g., Beighle, Morgan, Masurier & Pangrazi, 2006). The inter-reliability factor of the MLS 2505 pedometer model had shown an intraclass correlations or ICC ≥ .985 (Tudor-Locke, McClain, Hart, Sisson, & Washington, 2009) and step count reliability of alpha > 0.80 (Johnson et al., 2007).

Prior studies using pedometers

The use of pedometers has become a highly effective tool to measure PA levels (Johnson et al., 2007). The pedometer records the number of steps taken daily (also referred to as daily step counts). Some models are multifunctional and also record accrued activity time (seconds, minutes, hours). In the Johnson et al. (2007) study, Native American children ages 8-12 years (*M*=9.8 years, *SD*=1.3), from two communities wore the MLS 2505 pedometer to record step counts and activity time for 4-days at school. The mean step count for boys in community A was 3,341 and for community B was 5114; overall mean school day step pattern mean for boys was 4,237 steps/school day across schools (*SD*=2,122). The mean step count for girls in community A was 4042, and for community B girls was 4622. The overall mean step count for girls was 4,042 (*SD*=1,628) across schools. These numbers are relatively high compared to a study by Morgan et al, (2003) who found that the boys accumulated an average of 3,800

steps/school day for metropolitan children (age 8-11 years) while girls averaged 2,900 steps/day during the school day. In physical education classes, Tudor-Locke et al. (2006), reported that boys accumulated 1429 (± 567) steps and girls had 1410 (±445) steps. (The percentage of Native American children in the Tudor-Locke study was 2%).

Boys are generally more physically active than girls. There is also a trend with a decrease in steps per day throughout the grades, 1st through 12th. This suggests that there is also a decline in physical activity level as children move into adolescence. More data are needed and particularly tracking out of school the physical activity patterns of children (Vincent & Pangrazi, 2002; Le Masureier, 2004; and Wilde, Corbin, & LeMasurier, 2004).

Teachers' Promotion of Physical Activity During and Beyond Physical Education

With risk factors for obesity and the lack of physical activity, a key component of physical education programs may be to promote physical activity, not only during physical education lessons, but also beyond. Physical educators can promote and encourage physical activity participation and healthy habits to their students. Students in physical education depend on teachers for appropriate exercise guidance, information and support. The impact of physical activity participation has numerous benefits, such as, influence to decrease childhood obesity, chronic diseases, improve academic performance, increased self-esteem and mental health (Summerfield, 1998). Therefore, physical education classes are regarded as a primary place to impact student encouragement that will lead to increase student physical activity participation (Pate et al., 2006). Most concerning, physical education classes may be the only opportunity that exposes students to knowledge related to physical activity at schools. Also, as physical

activity levels decline as children age, it is imperative for physical educatosr to understand why physical activity behavior changes in adolescents, why students engage in sedentary activities, and determine if current physical education curriculums support physical activity promotion. Physical education must be a broad-based, comprehensive program that service students to influence in becoming physically active individuals outside of physical education class rather than class time only. Physical educators must advocate lifelong physical activity behavior. Examining the specifics of behavior, specific activities and curriculum, plus the organization of before/after-school activities is imperative.

According to Treanor and Housner (1999), "physical activity and quality physical education classes are a vitally important for all children. Well-designed [physical education] programs can improve coordination and fitness, increase self-confidence, guard against obesity, and establish healthy exercise practices for later life" and for a curriculum "to offer choices that will lead to a lifetime of exciting activities…that emphasize a knowledge and skill that [could] be applied in adulthood" (Treanor & Housner, 1999, p.58). The U.S. Surgeon General's Office reported (1996) showed a decline in enrollment in high school physical education, a decline from 42% to 25%, from 1991 to 1995 (USDHHS, 1996). Also, the report stated that most [physical education] programs poorly administered are in need of drastic change. Classes are too large, lack sufficient equipment, and facilities are inadequate and there is lack of administrative support. The promotion of physical activity is crucial and must be coordinated as a school-wide effort.

High quality physical education programs offer various content areas: fitness development, movement concepts, motor skill development, individual/team games, gymnastics, outdoor and leisure activities. These programs offer opportunity for physical activity. Combined, the physical activity and health component set the prescription for wellness that incorporates both physical and mental health. A review of physical activity intervention programs showed Native American schools have implemented fitness and nutrition education programs, wellness programs, and health programs. They included traditional type activities to improve nutrition and increased physical activity, while utilizing culturally relevant curricula (Teufel-Shone, Fitzgerald, Teufel-Shone, & Gamber, 2009).

Five of the 17 physical activity interventions, age group 18 and younger, were tribally developed and administered. Two intervention programs involved Navajo children among other Native American tribes: *Southwest Cardiovascular Curriculum Project* and *Pathways*. The Southwest Cardiovascular Curriculum Project was a 4-year program for Navajo and Pueblo 5th grade children. The project had cultural relevant focus to increase knowledge of CVD risk factors, promote healthy behaviors, and promote vigorous activity regularly and to offer cultural importance of PA with elders speaking to children in school. Pathways intervention was a large-scale obesity prevention study involving children in grades 3-5. The strategy was to change individual behavior and modify environmental and cultural factors to influence behavioral changes. The components included: (a) Classroom curriculum designed with physical activity breaks, (b) Physical activity component to maximize energy expenditure during physical education class, (c) Food service intervention intended to lower the amount of fat in

school meals, (d) Family program involved take-home 'family action packs' linked to the classroom curriculum and encouraged parents to promote reduced fat meals and exercise. Pathways results indicated an excess in physical education requirements of three times per week; number of days Physical Education was taught increased from 48.6% to 60.8% (3^{rd} to 5^{th} grade); implementation of food service behavioral guidelines increased from 51.5% to 80.6%; and variety of food choice in fruit and vegetables, skim milk, and low-fat cheese increased (Steckler et al., 2003).

The success frequency and quality of PA was increased for youth at school and at home with the idea of creating positive attitudes toward PA and motor skills to sustain active lifestyle.

Research Purpose

The purpose of this study was to examine the physical activity patterns of 9-12^{th} grade Navajo students during the school day, 24-hour periods, physical education and on a weekend. A secondary purpose was to examine potential differences between genders in physical activity patterns.

Methods

Setting

The school was located in a small rural community on the Navajo reservation called Sandy Ridge. The high school had a total of 576 students: 161-ninth grade; 162-tenth grade; 132-eleventh grade; and 121-twelth grade (See Table 1). Sandy Ridge School District was comprised of five surrounding districts. The Native American population of the school was 99 percent. The school district received Title I funding and 85% eligible students were entitled to the free lunch programs. The graduation rate was

53% and had a dropout rate of 5%. The average teaching experience was 9 years for teachers at the school. The high school has one gymnasium, one weight room, and an outdoor softball field for activities, with 55 minutes of daily physical education classes.

Recruitment and Participants

The researcher first obtained approval from the Navajo Nation IRB and Arizona State University IRB. Sandy Ridge High School was selected since it is one of the larger Navajo communities on the reservation that focuses on the cultural and academic related needs of Navajo youth. Purposeful selection (Patton, 2002) guided the recruitment process of physical education teachers, classroom teachers, the community member and the high school students.

Physical Education Teachers. Initially, the two physical education teachers from Sandy Ridge High School were informed about the study purpose and data collection methods. Both teachers volunteered to participate in the study by helping with the pedometer data collection. Teachers and students were taught the procedures of the pedometer data collection protocol (Appendix G).

Students. Students from grades 9-12 physical education classes received information about the purpose of the study and data collection methods. Students' participation was contingent upon parent approval with signed consent and assent forms submitted. Seventy-one consent forms were handed out to students from two freshman physical education classes and three strength and conditioning classes. Sixty-three participants submitted both signed consent/assent forms.

From the student personal information sheet collection, students self reported age, grade, gender and race/ethnicity/tribe affiliation (See Table 2.). The age range of

participants was from 14 to 20 years. All students indicated Navajo tribal affiliation with two indicating Navajo and another tribe. Fifty-one students reported as *returning* students with Sandy Ridge School district (37 freshmen, 2 sophomores, 3 juniors, and 9 seniors). Eleven students had transferred from other schools districts (9 freshmen, 2 seniors).

Other Stakeholders. The Sandy Ridge High School Culture teacher, the Diné (Navajo) studies teacher and community member were contacted by phone call and informed about the study purpose. They generously volunteered to participate to be interviewed.

Table 1. School Demographics

SCHOOL ENROLLMENT		
Grade	**Beginning (August)**	**Ending (May)**
9th	161	163
10th	162	161
11th	132	138
12th	121	116
	576	*578*

Table 2. Participant Demographics

PARTICIPANT DEMOGRAPHICS		
Race/Ethnicity	***n***	***%***
Navajo	61	99%
Multi-tribal	2	1%
Gender		
Female	24	38%
Male	39	62%
Grade		
9th	45	72%
10th	2	3%
11th	4	6%
12th	12	19%
Age		
14	26	41%
15	17	27%
16	5	8%
17	4	6%
>18	7	12%
Not reported	4	6%

Instrumentation: Pedometers

To assess physical activity levels, students recruited from physical education classes were asked to wear their pedometers for 24-hour periods for eight consecutive school days and for two weekend days.

The type of pedometer used was the Walk for Life 2505 pedometer. Pedometers, marked with a predetermined number, were assigned to participants. In physical education class, students recorded data from the start to end of each class session. Students wore the pedometer throughout the school day and at home. All participants were given activity log data sheets which contained three parts to record daily steps counts (24-hours: from Physical Education class on one day to Physical Education class on the following day), mode of transportation, information based on previous day activities and a weekend physical activity check-off sheet (See Appendix F).

Pedometer Orientation

Orientation. Participating students attended a pedometer orientation. Participants received a packet that contained information on the study purpose and details on pedometers. Details included information on what a pedometer is, instructions on how it is used and how to place and wear the pedometer. Student were given practice sessions using the pedometers in Physical Education classes.

Physical education teacher participants also attended the pedometer orientation on procedures and instructed students on protocol and procedures to use the pedometer and record data. Fifty out of the 63 students wore pedometers for seven consecutive days (5 week days, 2 weekend days).

Pedometer Accuracy. The practice test consisted of proper and adequate placement to obtain accurate recording. Students performed a practice test using the pedometers to check for step count accuracy. After proper placement of the pedometer, they reset the pedometers to "zero", took 20 steps, and then checked the pedometers. Students performed this test three times for accuracy.

Body Mass Index

Body Mass Index (BMI) is the correlation of body size based on the height and weight to body fat. The height and weight data were collected by the school nurse. Height was measured to the nearest inch and weight was measured to pound. The type of scale used was the Health-O-Meter scale. Height and weight measurements determine level of obesity and overweight.

Weekend Checklist

Boys and girls were asked to report on weekend activities used using a basic checklist designed by the author (see Appendix F).

Data Analysis

Descriptive statistics for weekday and weekend physical activity (steps) and BMI were calculated overall and by gender. The analyses were done to describe physical activity. The calculations determined average step counts for school day physical activity, physical education as well as weekday and weekend measurements for daily physical activity. ANOVA was used to investigate possible differences by gender and weekday versus weekend day difference across the eight days with significance at $p<.05$ level used.

The calculations for BMI were determined using the formula BMI = (Weight x 703)/(Height x Height) (CDC, 2014). The BMI measurements were taken once in the beginning of the academic year.

Results

Gender Differentiation of Weekday Step Counts

Of the initial 63 participants, thirty-four students (n=20 boys and n=14 girls) recorded daily step counts for average weekday calculations. The difference between gender and weekday steps showed that males were more physically active than females $t(32)=2.04$, $p=<.05$. Boys accumulated significantly more day time steps (M=11,078, SD= 4,399) than girls (M=7,567, SD=5,613); (See Table 3.)

Gender Differentiation of Weekend Step Counts

Thirty-two students (n=19 boys and n=13 girls) recorded weekend step counts for average weekend day calculations. The difference between the gender on weekend was that the girls were significantly more active $t(27)=2.30$,$p=.03$. Boys accumulated (M=6493, SD=5650) weekend steps and girls accumulated (M=7589, SD=5614) steps per weekend day.

Weekday and Weekend Step Counts

The accumulated average (M=9632, SD=5161) for boys and girls on weekday step count was significantly higher than the average weekend step count $t(27)=2.29$; $p=.03$ (M=6938, SD=6470). The data shows a significant difference comparing weekday and weekend steps. Students were significantly less active on the weekend.

Gender Differentiation of Physical Education Step Counts

Forty-eight boys and girls (n=28 boys, n=20 girls) recorded physical education step counts. The overall average step counts for boys and girls showed minimal differences in physical education with the boys' activity level slightly higher than the girls. The accumulated average for boys (M=2203, SD=918) and girls averaged (M=1939, SD=889) step counts. There were no significant gender differences during physical education.

Gender Differentiation of BMI

The school nurse assess height and weight of forty boys and girls (n=22 boys, n=18 girls). The overall averages for both boys and girls for BMI were (M=25.4, SD=6.6) The gender differences indicated that boys BMI averages were slightly higher than the girls, although these differences were not significantly different.

Table 3. Average Step Counts for Weekday, Weekend and Physical Education Day

Gender		Weekday	Weekend	Physical Education
Boys	Mean	11078	6493	2202
	N	20	19	28
	Std. Deviation	4400	5651	912
Girls	Mean	7567	7589	1939
	N	14	13	20
	Std. Deviation	5614	7712	889
Total	Mean	9632	6938	2093
	N	34	32	48
	Std. Deviation	5161	6470	902

Weekends Activities

Thirty-eight boys and girls (Boys=24, Girls=14) submitted the weekend activity checklist for Saturday and 35 (Boys=21, Girls=14) for Sunday were submitted.

Boys and girls engaged in walking and running/jogging activities most often, with higher percentages of girls than boys engaging in physical activity. The same number of boys and girls participated in running and jogging activity on both days. A third activity with many participants was the *Feed Animals* activity. (See Table 4.)

Table 4. Weekend Activities

	Saturday					Sunday				
	Girls		**Boys**		**Overall**	**Girls**		**Boys**		**Overall**
Activity	14	%	24	%	**38**	14	%	21	%	**35**
Walking	14	*100*	17	*71*	31	14	*100*	16	*76*	30
Running or jogging	8	*57*	11	*46*	19	8	*57*	11	*53*	19
Feed Animals	6	*43*	8	*33*	14	5	*38*	9	*43*	14
Chopping Wood	2	*14*	8	*33*	10	3	*21*	8	*39*	11
Sit-ups	4	*29*	6	*25*	10	4	*29*	6	*29*	10
Basketball	3	*21*	7	*30*	10	2	*14*	5	*24*	7
Dancing	1	*7*	5	*21*	6	2	*14*	4	*19*	6
Football	0	*0*	5	*21*	5	0	*0*	6	*29*	6
Jumping Jacks	2	*14*	1	*4*	3	3	*21*	1	*5*	4
Horseback Riding	0	*0*	2	*8*	2	2	*14*	2	*10*	4
Cross Country	0	*0*	2	*8*	2	1	*7*	2	*10*	3
Volleyball	2	*14*	0	*0*	2	1	*7*	2	*10*	3
Soccer	0	*0*	2	*8*	2	0	*0*	2	*10*	2
Sheep Herding	0	*0*	1	*4*	1	1	*0*	2	*10*	3
Biking	0	*0*	3	*13*	3	0	*0*	1	*5*	1
Aerobics	0	*0*	1	*4*	1	0	*0*	2	*10*	2
Wrestling	0	*0*	2	*8*	2	0	*0*	1	*5*	1
Play Kickball	0	*0*	2	*8*	2	0	*0*	1	*5*	1
Jump Rope	1	*7*	0	*0*	1	2	*14*	0	*0*	2
Swimming	1	*7*	0	*0*	1	1	*7*	0	*0*	1
Baseball/Softball	0	*0*	0	*0*	0	1	*7*	0	*0*	1
Other	0	*0*	4	*17*	4	0	*0*	5	*24*	5
	44		87		131	50		86		136

Discussion

This study examined the physical activity patterns of high school students. Measuring physical activity patterns was the predominant focus since little research has examined these behaviors among Navajo adolescents. Although this is a small-scale study, there was little within-class variance on step counts during physical education, weekend physical activity and weekday physical activity. Based on these results, Navajo

adolescence may be at risk for future chronic diseases given the decreased physical activity. Maintaining physical activity throughout all grade levels is important and decreased physical activity puts adolescents at risk. According to Kulinna et al. (2003) adolescence puts youth at risk for low physical activity.

Physical Activity Levels

The only physical education class offered at the school was a required course for the freshman group while Strength and Conditioning was an optional course for other grade levels (grades 10-12). Caspersen et al. (2000), Tudor-Locke et al. (2006) and Kulinna (2003) have shown that boys are generally more physically active than girls, which aligns with previous results of Navajo adolescent age groups with girls less physically active than their counterpart during the week.

In regard to Native American children, there are few quantitative data on the activity levels. However, the low percentages from the physical activities list, showed that Navajo adolescents spent less time engaging in physical activities outside of school which supports the findings of other Native American youth regarding the lack of participation in leisure type activities (Fontvieille et al., 1993) and that they are not physically active on a regular basis (Story et al., 2003).

Weekend Physical Activity Levels

Although not statistically significant, girls accumulated slightly higher step counts than boys for average weekend step counts. This portion of the results does not support the premise that adolescent girls are less physically active than boys. The Navajo adolescents' overall weekend average had much average than students in Flohr et al. study (2006) averaged 11,554 overall. Gender differences of Navajo adolescents were

much lower with boy average steps 11,078 and girls 7567 in comparison to the adolescents in Flohr et al. study of boys at 13,000 average steps and girls 10,455. This Navajo adolescent group appears to be much less physically active.

Weekday Physical Activity Levels

Boys accumulated significantly higher averages in weekday and physical education step counts than girls overall. In relation to prior research in this sample of Navajo adolescents, boys fell slightly below the expected average daily steps of 12,000 to 16,000 steps and girls below 10,000 to 13,000 steps (Flohr et al., 2006; Tudor-Locke et al., 2011). Navajo adolescent overall average step count was 9632. Students in Flohr et al. study had 11,392 average steps. The Navajo adolescent averages fall below the cut point averages in comparison to adolescents in Tudor-Locke et al.'s study cut points approximated 13,500 steps/day (boys) and10,000 steps/day (girls).

BMI

There were no significant differences in BMI levels by gender. The boys averaged 27 with girls at 23 for BMI. The overall average for boys' and girls' BMI was 25. The weekend activities results indicated that a higher percentage of overall students engaged in walking activity followed by jogging and running. Although students did not meet the daily recommended physical activity levels, BMI results did not show that Navajo adolescents are overweight of which children not meeting the BMI-reference cut points were more likely to be classified as overweight (Eisenmann et al., Laurson, Wickel, Gentile, & Walsh, 2007).

Limitations

The Navajo adolescent population sample was small, in addition to, the lack of research on Navajo adolescents and physical activity to support a comparison. The number of students to report step counts data was low with weekday (n=34), weekend (n=32), and physical education (n=34).

Conclusion

The purpose of this study was to examine the physical activity levels of Navajo adolescent youth by means of measuring step counts using pedometers. Step count results indicated that boys average step count (11,078) was generally higher than girls (7,567) during weekday and physical education (2,202 and 1939, respectively). The girls had significantly higher step counts for weekend step count averaging (7,589) than boys (6,493 average). Overall, their step counts in the three categories of weekday, weekend, and physical education, Navajo adolescents did not meet the recommended levels of daily physical activity of 10,000-14,000 steps. The weekend activities results indicated that many students engaged in walking activities followed by jogging and running. There were no significant differences in overall BMI levels among boys' average 27 and girls 25.

CHAPTER 6

DISCUSSION

The first part of this study was to examine the perceptions and meanings of physical activity, physical education and healthy living by Navajo adolescents, physical education teachers, a Navajo language teacher, a Diné studies teacher and a community member. The study found that the students' background involving physical activity was geared toward traditional aspects learned, such as the cultural practice of running. Extended family structure was evident by the teaching of the Diné ways of life by grandparents and the influential practices by parents. The ceremonial practice of running daily of the past existed as current physical activity engagement. Also, students identified the health risk of obesity as a meaningful purpose to maintain health.

The venue of physical education and physical activity participation for the Navajo students were salient upon and focused on social interaction and to be with friends rather other than to play or to engage in games for competition. McInerney et al. (1997) identified that educational goals and performance of Indigenous minority with Westernize school setting differ from those of Westernize school children. This was evident in the Sandy Ridge High School. The affiliation is group oriented rather than individualistic which also identified the concern for others to strive for success and the companionship of being accepted into group involvement.

In the past, physical activity was geared toward social support in order to maintain cultural identity. Presently, Indigenous minorities struggle to maintain cultural identities and place (Adams et al., 2006) in Westernize school systems. The indicator of group affiliation is a means to embrace their involvement during physical education as positive,

to create a sense of community, and to encourage the well being for others. On the other hand, the physical education teachers created a program based on physical fitness development and discipline. The Navajo physical educator's influence to create a program consistent with competitive games, like that from her own high school experiences, was a method to subjugate students for the demands of the Westernize context. The aspirations from physical education teachers were for their students to experience success after high school.

The concept of healthy living was embedded into the Diné lifestyle. The adults' backgrounds emphasized this and it was prominent in their upbringing during childhood. Today, the high school educators and community member are taking back the collective system of choice. Personal choice is important concept for students to comprehend. For example, when an individual decides to get up early in the morning to run, the individual has made a personal choice that has several benefits-maintain health, maintain tradition and instilling the discipline of hard work ethics. There is also the possibility that students are not aware of the problems associated with physical inactivity, such as the risks of weight gain or obesity. In addition, with the limited collaborative efforts and health promotion program and to educate students on the risk factors associated with physical inactivity, to Diné students the problems may be nonexistence to them.

Maintaining Navajo culture and identity is a significant struggle for Navajo educators and community. The identity factor has become a political movement for the establishment of "self" as opposed to the "Other" which is has been altered by dominant society. Ware (2006) described that societal attitudes dominate the shaping of perceptions, the shaping of senses, meaning, and awareness. Such shaping is influenced

by non-Native historians who in turn give disproportionate representation of the Native cultural body and representation. Today's Navajo youth and adolescents know very little of the Navajo concept of Hózhó, a wellness principle to maintain order in strength and health of the Navajo cultural body with emphasis of longevity of reaching old age. To maintain strength and longevity is to live life with healthy intent, desire and fulfillment. Longevity is also one's goal, to obtain wisdom throughout the years of growth and old age. The central concept of "old age" is every Navajo's goal in life. Physical activity in Navajo lifestyle is not studied enough and what is currently known shows that Navajo live a more sedentary lifestyle than 40 years ago (Mendlein et al., 1997).

The quality of physical education programs is Sandy Ridge High School is imperative. With amount of time in physical education class engaging in physical activity is insufficiently used, students are not getting the recommended 60 minutes per day o vigorous or moderate intensity physical activity more than half (≥ 50 percent) of which should be accomplished during regular school hours (Corbin, Kulinna, Dean & Reeves, 2013). There is a need for more physical activity opportunities for Navajo students in the Sandy Ridge School.

The second part of this study investigated the physical activity patterns of Navajo adolescents measuring for step counts for weekday, weekend, and physical education. This research provided the ground breaking information on the physical activity patterns of Navajo high school students. The objective form of measurement used was the pedometer to record and calculate step counts. The extent of this segment of study is only a baseline of determining physical activity levels. This study lacks the correlation between pedometer-estimates and self-report measurements.

The empirical evidence that do exist on Native American physical activity suggest that Native Americans receive relatively low levels of physical activity (Acton et al., 2002), usually lower than their other minorities, or report barriers that lead to physical inactivity (Stevens et al., 1999; Eisenmann et al., 2000). Native American children spend significantly less time engaged in sport and leisure activities than in other subgroups of the U.S. population. Also, roughly 26.4% of this population does not meet the Surgeon General's recommendations for physical activity participation. These results indicate negative results with low physical activity levels. Physical activity levels of Native American children need drastic change and form.

This study found that Navajo high school students are physically active. However, Navajo adolescents are not meeting the recommended minimal 60 minutes of daily vigorous to moderate physical activity that should be accomplished during more than 50 percent of regular school days. With the school offering two courses, freshmen physical education and a weight training class, the school's physical education program lacks the quality, provides insufficient time for physical movement. Also, without an adequate curriculum, the physical education program lacks diversity to provide an array of activities to service the needs of Navajo students.

Positively enriching the environment of a child produces numerous benefits. Working to increase the chance of future participation in physical activity for lifetime is far the utmost benefit a child can experience. Current research is needed to explore these challenges in hopes of positive gains health benefits, physical activity levels, and reduction in obesity.

Further research needs to be conducted to explore more the perceptions of Navajo high school students, the physical educators/educators, and community members closely tied to the education of health wellness and healthy living lifestyles. Further research is also needed to examine the patterns of physical activity levels of Navajo students.

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APPENDIX A

REVIEW OF LITERATURE

Literature Review

Traditional Way of Life

The lifestyle and wellness of Navajo youth was traditionally defined and maintained by a daily practice of waking up before the sun rises. The rising sun represents life and a new beginning. Then, with a handful of white cornmeal, girls and boys would go outside the Hogan to offer the cornmeal as a daily blessing with prayer to the deity. The daily practice of offering and prayer was normally followed by a long run as the sun rose beyond the horizon. This practice was unifying, enriching the necessity of balance and order to provide the support for the activities Navajo youth will endure throughout the day and throughout their lives (Dyk, 1938).

This traditional practice and custom was sacred throughout the history of the Navajo people. Navajo children received instruction from their grandparents and parents in a manner that had established deep traditional discipline. It was the Navajo way of life. The sacred belief was to draw the body and mind into balance to maintain peace and harmony in an imperfect world, for children to survive the harsh factors of life. Unfortunately, this practice of sacredness was significantly altered after contact with outsiders during Euro-American period. The purpose of this study is not to address the inequities, but to delineate the Navajo youth, teachers and community members' perception and attitudes relative to physical education and physical activity prevalent in today's modern world and the American Indian educational system.

The Navajo way of life is to maintain the inner being, the sacred physical body through daily, meaningful living. According to Mary T. Begay, a Navajo Elder,

> "The traditional Navajo way contains no concept for religion as a sphere of activity separate from daily life. Navajo religion has been described as 'life itself, the land, and well-being.' All living things - people, plants, animals, mountains, and the Earth itself - are relatives. Each being is infused with its own spirit, or 'inner form', which gives it life and purpose within an orderly and interconnected universe. The interrelatedness of all creation is recognized through daily prayer offerings and an elaborate system of ceremonies. The purpose of Navajo life is to maintain balance between the individual and the universe and to live in harmony with nature and the Creator. In order to achieve this goal, Navajos must perform their religious practices on the specific, time honoured areas which they inhabit," (Mary T. Begay, year unknown)

For the Navajo, to respect one's cultural bearing, it is one's responsibility to maintain the sacredness of being, existence, land, prayer, ceremonies, and to care for each as one, not as a separate form. *Being* of separate value and form is irrelevant to Navajo belief and tradition. One cannot be separated and exist without those traits..

The total *being* of Navajo identity does not coexist with their white counter-companions whose roots lie with Euro-Western society. Even, today, American Indians yet to coexist, nevertheless, are seen as second-class citizens. Much of what we know or understand has been contextualized and institutionally learned throughout the production of American education. With the dismantling of the Native American identity in the colonization period and throughout the modernization period, many Navajo youth and teens struggle to come to terms with their identity, with their being, with their existence. The dismantled Native cultural image and representation by whites, media, and stereotypes have gone uncontested until very recently. The identification of Native Americans is unique and the inherent traits significantly differ from the norm of society's stigmatized definition. Within the identity of Native Americans lies the importance of language to describe and interpret various aspects in culture and tradition.

Tajfel (1981) identifies cultural identify as an individual's self-concept that derives from his or her knowledge of membership in a social group (or groups) together with the value and emotional significance attached to that membership (1992, p. 156). The cultural identity of Navajo includes their history, their language, and traditions, all encompassing a sense of belonging through the existence of the underlying world of Navajo or Diné that is found within the Four Sacred Mountains. Within the sacred mountains life was given by the Holy People where the Diné were to live harmoniously and live according to sacred way of life (Aronilth, 1992).

Cultural Conflict and Self-Esteem

What follows is a description of the experiences Native American children faced in a time of resistance to Federal Indian education policy that in the end changed the trajectory in the lives of Native American people and children. Native children were forcibly removed from their homes, families and their land. The earliest form of standardized education was the establishment of the boarding school system that began in the late 1800s at the Carlisle Industrial School (Iverson, 2002; Manuelito, 2005; Webster, 2010). The decision was made by the federal government to take children from their parents and grandparents and to place them in boarding schools that were located at far distances across the country. One outcome was to remove the Indigenous identity and language of Native American children by not allowing children to speak their language nor practice their traditional and cultural activities. This federal policy and process was to assimilate Native American children into Westernized society by use of the boarding school system with the idea to bring about a mass cultural conversion by waging war upon Native American identities and cultural memories (Bloom, 2000). Native American

boarding school children, nevertheless, struggled to maintain their identities and cultural practices.

As a result, the complexities Native American students faced in attempts to maintain culture and tradition manifested into a life of community development through the use of sports and recreation. Sport and recreational activities were the only venues that allowed students to create an alliance with others to recreate their identities and act on their own behalf (Bloom, 2000). In other words, these activities were a way for the students to focus on themselves and others in order to maintain their Native American cultural identities. The majority of curriculum at these schools was built on the premise of militaristic values, harsh disciplinary measures, and extreme manual labor to discipline the minds and bodies of Native American students. However, the students developed a community within the school's confines to create or embody a system of athleticism that resembled traditional ties through engaging in sports or other physical activities.

Out of Public Law 815 and Public Law 874, construction of schools throughout several locations on the Navajo reservation began in 1953 (Iverson, 2002). Today, many schools are located throughout various parts of the reservation. Nevertheless, many Native American children continue to experience a world very different from that of Western mainstream society (Deyhle, 1989 & 1992; McInerney, 1997). Many students grow up learning the culture of the parent's origin. Some of whom learn Navajo language, cultural and ceremonial practices. Navajo children learn the values that are significant to the traditional living of the Navajo people.

The Navajo children's knowledge of tradition and culture are learned through the experiences gained in sociocultural context of Navajo identity that include heritage

language and English, levels of tradition expressed in their daily lives, health issues and poverty, and low levels of school achievement after elementary school (Flowerday, 2006). Sociocultural aspects also include ceremonial and spiritual practices which is also a large part of Navajo culture. Navajo youth and adolescents continue "an ongoing struggle over cultural differences and its perceived threat, or benefit, to a sense of shared American identity" (Lomawaima & McCarty, 2006, p.6). The value systems of "children from Western societies are antithesis of those from non-Western indigenous" or Native American "societies such as the Navajo" (McInerney, 1997, p.2). According to McInerney (1997) non-Indigenous societies are competitive, seek power and control over others, and desire individual success. Navajo culture is oriented around group affiliation and espoused motivation through group cooperation and cohesion. Group needs and concerns are more important than individual needs and individual success (Iverson, 2002).

Navajo students experience low self-esteem as a consequence of many factors. For one, self-esteem is affected by historical implications of Navajo children forced to attend off-reservation schools (Iverson, 2002; Metcalf, 1976) and typically experienced low self-esteem. According to dominant Western view, self esteem is individualistic, to obtain success, goals and happiness through personal best and to grow into independent individuals where children are encouraged to compete and to win in order to achieve success (Michaels et al., 2007). Native Americans, on the other hand, display characteristics of collective culture in terms of self worth domains (Deyhle & LeCompte, 1994; Michaels et al., 2007).

Boarding Schools

To understand the community is to know and understand where the location of the community of Sandy Ridge lies. The history of Sandy Ridge is one that holds the first reservation boarding schools built on the Navajo reservation in 1883 (Thompson, 1975). Other locations of reservation boarding school followed thereafter.

Native American students, taken from their homelands and removed from their families, could not forget their identity of who they were and the place they came from. Children could neither erase their memories nor forget their past. The harsh conditions, such as extreme punishment from speaking Native languages and overcrowded living quarters, students created their own communities at boarding schools that allowed them to maintain identities and cultures. Although these groups were created within the confines of the institution, these groups were discreet in form. The conditions of the off-reservation boarding schools were not based on academic premise but, students instead faced hard manual labor where they were required to stand at military style attention for extended periods of time; and had endured harsh living conditions that were overpopulated, and not well ventilated causing sickness (Adams, 1995).

Native American students found the disciplinary conditions of the boarding school system strange and irrelevant to them and found means of coping by running away. Some groups found an alternative means by engaging in school sponsored activities, like athletics. Native American students looked toward extracurricular activities, such as games and sport, as a form of escape to alleviate ill-stress factors (Bloom, 2000). Politicians and boarding school officials and educators used games, team events and sports as the process to encourage student organizations and participation and as a way to continue the assimilation process (Bloom, 2000). Nevertheless, Native students found

engaging in games and sports symbolic in nature and similar to cultural activities and as a means to maintain ethnic identity. Physical education, games and sports became a major component of the boarding school curriculum (Adams, 1995).

Native educators believed that American Indian children should be taught according to traditional values; these cultural principles related to how children are taught at home, and they are also taught how to socialize within community. Nevertheless, Native American students experienced a high degree of school failure that intersected with an educational value system that did not reflect common values of community and cooperation (Kasten, 1992). Such customs were intrinsically valued over academic goals of academic achievement. In the past, Native American students participated in physical activities because it was a resemblance of their home life, today, participation in physical activity in schools is to maintain a letter grade or eligibility into athletics.

Lifestyle changes and health related factors that are associated with low physical activity levels have drastically affected American Indian communities. A factor associated with health-related issues among American Indian groups is obesity. Native American children obesity ranges from 21% to 64% (Story et al., 2001; Gruber, 1990; Young et al., 2000) compared to obesity ranges of 12-14% of other U.S. children (Triano et al.,1995). However, little is known about how minorities, including Native Americans, perceive physical activity and the factors that encourage their participation. One study found one group of adult Native Americans expressed being disconnected, isolated, being out of place, not fitting in, especially around non-Indians; another group was enthusiastic stating a desire to be around individuals with similar background (Belza et al., 2004).

Cultural identity and connection was also highly important to the adult Natives in this study.

Currently, there is a prevalent belief among Native American health educators that curricula are designed to serve as nutrition and physical activity models (LaRowe, Wubben, Cronin, Vannater, & Adams, 2007). Traditional educators and elders believe that bringing in a balance of traditional physical activity and eating patterns into today's lifestyle will strengthen cultural values. Community members, elders and educators also believed that the form most acceptable to learning was through storytelling. Youth and children ought to be taught cultural values through traditional storytelling and other activities, such as basket weaving, beading and snow games in the winter (LaRowe et al., 2007). LaRowe et al. also found that a strong participation from community members was needed for successful implementation of health and physical activity programs (2007). Storytelling was adeptly the role of oral tradition in American Indian culture and is an important part of Indian education. Storytelling "provides the context for the transmission of social structures, patterns, and history of Indian people…and are always purposeful, and frequently the time and context in which they are related is purposeful as well" (Kasten, 1992, p. 111). Simply, storytelling has been a culturally acceptable method by community members and educators to bring cultural balance between traditional wellness and physical activity.

Sandy Ridge School System

Today, stakeholders in the education of Navajo youth embellish a system that stigmatizes culture and tradition, whereas, secondary ideal is to keep its Navajo culture and tradition among the younger generation of adolescents. This system follows the

stigmatized system of the boarding school system design which was to westernize the identity of American Indians. Sandy Ridge school system is a dual process system to teach according to western education and to maintain Navajo identity among its youth and adolescents. Throughout time, the educational movement has caused cultural shift and changing cultural identities (Michaels et al, 2007; Twenge & Cocker, 2002).

One requirement at Sandy Ridge school district was a dress code policy. This policy required students to wear the school uniform attire or allowed the Navajo traditional clothing or garments. Most students chose the dress code uniform of polo tops and khakis pants. The stigma between the two types of clothing is an example of the many problems stakeholders face. The traditional attire represents Diné while the polo tops and khakis pants may be seen as a method to prevent a westernized image of gang affiliation or color.

In this situation, the Navajo high school students were faced with a dilemma of "cultural boundary". In Navajo culture, students become adults after puberty where students learn to make their own decisions, face consequences, acquire understanding of what is in their best interest, and should not be forced to do something they are not willing to do (Dehlye & LeCompte, 1994). With the varying differences between authoritative practice Navajo adolescents' face, the cross-disciplinary practices unnecessarily complicate student development vis-à-vis the Navajo perspective of youth development, which emphasizes self-discipline, autonomy and social consensus.

APPENDIX B

INDEPENDENT PROFILE SUMMARIES

Independent Profile Summaries

The following provides the profiles of thirteen participants who are placed into two groups: 1) eight Navajo high school students, and 2) two physical education teachers, one Navajo language teacher, one Diné Studies teacher, and one community member. The focus was to present a picture that best represents the participant personal information, physical activity and physical education experiences in school, a description of traditional activity of Navajo teachings, and the family background of prior physical activities. To understand the position of each participant was to look into their past or histories, for each to reflect on his/her own thoughts, experiences and early influences in life.

Introduction to Navajo High School Participants

The following section provides the profiles of eight high school students: Katelyn, Nelson, Jennifer, Angel, Jazz Lee, Michael R, Walter, and Derek. The profiles provide a brief introduction of the participants' lives and give a synopsis of each individual's experiences in physical activity, physical education, and healthy living. All participants resided within the boundary of the reservation.

Katelyn

Katelyn attended elementary through 9th grade in New Mexico schools. She transferred to Sandy Ridge High School during her freshman year. She lived in a single family home with her father. At age 8, she was diagnosed with childhood diabetes and since learned to maintain an active lifestyle and healthy nutritional habits. Her older brother was athletic during high school. As a mechanic, her father engaged only in "work related activities" with less desire for nutritional habits in life. Katelyn's mother worked

in the medical field teaching her the importance of active living, nutritional concepts and the practice of healthy eating habits. She helped her to establish a daily "regimen of weight lifting and cardio" exercise.

Elementary physical education was a "fun" experience for Katelyn's and she remembered playing large group activity, such as dodgeball. Her middle school physical education "focused more on agility and fitness testing" which she felt was "important to know" what one's "fitness levels appear as." Her freshman physical education experience was "intimidating" and she "felt pressure[d] to lose weight in order to fit" in with her peers. She left New Mexico and transferred to Sandy Ridge where she took *Strength and Conditioning* that was a co-ed class. The class routine included stretch exercises, two warm-up laps around the basketball court, followed by a weight room workout that was posted daily on the dry erase board. Katelyn also developed her own personal workout of sit-ups, pull-ups, crunches, push-ups and leg lifts.

Katelyn was most influenced by her mother to maintain a healthy lifestyle to keep the body healthy and how to maintain a lean body mass. She learned about *pre-* and *post-*workout meals to better suit her nutritional needs to help control her diabetic conditions. Katelyn met with a dietician and an endocrinologist regularly. She thought of physical education as an important part of the school day to learn to be healthy and to participate in activities to help her concentrate and to remain focused on academics. Physical activity outside of school was time for her to relax and to socialize with her peers and others. She enjoyed trail running, group fitness and cardio activities, aerobics, kickboxing and Zumba, at the community wellness center or chapter house.

Katelyn grew up in a home with a contemporary lifestyle with little pressure to learn to speak Navajo. However, she was able to understand her grandmother who spoke only Navajo. Katelyn enjoyed working with youth as a youth leader and youth counselor. Katelyn planned to attend college after she graduated from high school.

Nelson

Nelson grew up in a small community located about 8 miles from Sandy Ridge community. He was 17 years old. He attended elementary and middle school in Sandy Ridge. He attended his 9th grade year at Rough Rock High School then transferred back to Sandy Ridge in 10th grade year. Nelson competed in summer little league baseball and football in his youth. He played football and baseball in middle school and had no interest to participate in high school sports. His was interested more in weight lifting.

Nelson lived in a single parent home with his mother and three siblings. His mother recently reenrolled in college. Nelson liked walking with his mother in the evenings at the high school track. He was mostly influenced to be physically active by his older brothers and a cousin who recently joined the US Marine Corp. Nelson planned to join the Marines after he graduated from high school. After school Nelson and his friends spent about 90 minutes in the weight room, 3 times a week. Workouts consisted of squats, bench lifts, biceps curls and treadmill running or a game of basketball. Nelson stated that he was more physical active at home than he was at school in physical education.

Nelson's high school physical education class included "running, stretching exercises, doing push-ups, playing different type of sports," and "muscle endurance" activities. During *sport days* or *activity days* he learned a "specific sport" where "rules

were given" followed by "playing the game." *Fitness days* in physical education consisted of "running, then weight training" including "working on one part of the body," "upper body or lower body or mid-section." Nelson liked the class structure but desired "more fitness days." He liked physical education in the morning because he had "more energy" for "more physical activity." He believed that most *kids* do not really do anything after school, but "just sit around and play games." He believed that "diabetes is a serious" health issue and people need to be more physically active, which was time away from books and for simple fun. Nelson believed an important part of school was for academics because grades helped to get college "scholarships." He stated that students need to be taught about diabetes and felt that having diabetes would it affect having "a normal life due to medicines" and [insulin] "shots taken."

Nelson was learning Navajo from his mother and grandparents who were fluent speakers and practiced traditional Navajo culture and lifestyle. They were sheep herders by trade and do wood hauling often; Nelson and his brothers often help his grandparents with the wood hauling duties, especially during cold months.

Jennifer

Jennifer was age 14 in her freshman year. She transferred to Sandy Ridge School in her 4th grade year from a Phoenix district. An activity she enjoyed was skateboarding, but now she focused more on basketball and volleyball that she did earlier. She played locally and in the Native American Basketball Invitational games that were held in Glendale, Arizona. She liked playing softball, soccer and volleyball and ran often to maintain fitness for sports. She was the oldest of the siblings in a single parent home living with her mother. She had 2 biological siblings and 3 step siblings. Her family was

physically active and they liked to compete in recreational basketball tournaments. They also engaged in walking activities at the local track. Her step brothers enjoyed soccer and basketball.

Jennifer described freshman physical education class as structured with outdoor or indoor "running, push-ups, sit-ups and playing games" such as volleyball. Fitness days were described as "30 seconds bouts" of various exercises. She planned out her day to work hard during physical education class and to "rest in the afternoon" for afterschool sports practice. *Free time* days, allowed for the option of basketball, volleyball or *mat-ball*. As a student-athlete she enjoyed all activities in physical education. She liked that students "encourage[d] each other in class" and said that the teacher "tried to make the activities fun" for everyone.

Physical education to Jennifer was a time for participating in activities that are good for everyone, allowed for students to get acquainted, and for them to work together. Physical activity helped increased her alertness and awareness level in other academic areas in school. Grades were just as important to Jennifer as being active outside of school to keep from being bored and watching television. She often attended open gym nights and got involved with summer programs, like diabetes prevention camp outs for youth. She learned in school the concept of healthy living as "staying active and eating well," "running or walking," "getting enough sleep," and knowing when "to take a break" or stop when things get too difficult. She understood Hózhó as relating to living healthy, respecting *yourself* by taking better care of oneself-"physically, emotionally, mentally" and she thought that it should be taught in schools.

Her mother and grandparents spoke Navajo fluently, but she and her siblings were not and neither were they raised traditionally. She was, however, able to identify the four-Navajo tribal clans that she was born with.

Angel

Angel was in her junior year. She was 16 years old. She had three sisters and one brother. Her father worked for the forestry department and her mother was employed with the school district. Her father ran cross country in high school and her grandfather enjoyed recreational basketball. When growing up, her family lived with the grandmother. She and her siblings enjoyed kickball at early ages. She began youth sports and going out running with her father by age 7. *Just Move It* and *Set Your Pace* programs offered in the community were common summer events for the family. She helped her grandparents with wood hauling and also enjoyed cross-fit and Zumba at the wellness center.

Angel took *Strength and Conditioning* class which was a weight-training class at the school. A typical day in the weight training class was to "bench press, incline bench, perform the lat pull-down, perform upright rows on the rowing machine, and to do alternating dumbbell curls." She focused on sport-specific workouts "to keep her arms" and legs "strong for running" (e.g., leg press, leg curls, seated calf raises and leg extensions). She liked the class structure of alternating days of upper and lower body workouts with every Friday (or shortened school days) as open-gym where the option were to play basketball or volleyball.

Angel participated in high school cross country, basketball and track teams. Running was an important aspect of her daily activity to "stay healthy" and not to "worry

about gaining weight." She is also able to maintain physical condition because she liked being outdoors. She described physical education class as limited time indoors and limited physical activity due to the course curriculum which did not include "tennis, golf, or lacrosse." She added that the lacrosse game "looks interesting" to play. Angel believed that as a student-athlete she was held accountable and that the "school…expects a lot from you, like respect" and "academics." She was well liked by all her teachers and peers. During lunch she worked in the classroom on school work or missed assignments.

She learned more about healthy living concepts as a freshman, that staying healthy was part of life, to not give up and that healthy living must be practiced. It was as important as learning to read and getting proper sleep. She understood the importance of physically activity in relation to the obesity problem which she stated was problem within her community of students and friends. She became aware of this issue when a youth development representative presented an open discussion about "diabetes, overweight, and foods that are good for the body." She believed that high school teens were "lazy… because technology mostly," "cell phones," "*Facebook*," and "TV."

Her father received a scholarship to run at the college level, however, he did not attain a college degree. Angel was influenced by her father and grandfather's ability to run and her father encouraged and trained her as she grew up. Although her grandparents were fluent speakers, her family did not speak Navajo. Angel did understand when spoken to by her grandparents in Navajo. She took Navajo language classes in middle school years and was taught traditional stories, learned simple conversation, and was able to respond in Navajo. Angel was considering taking Navajo language in future courses.

Jazz Lee

Jazz Lee was a senior and was the oldest of five children. She was 18 years of age. Her brother, a junior, played football, basketball and ran track every season. She described him as an *odd-ball* who did not say much but just went along with what the girls would say. Her two younger sisters liked running activities, were learning to play basketball, and enjoyed aerobic dance exercises. Her father was an engineer and her mother worked as a developmental therapist who enjoyed running and exercised to maintain her personal health, especially after a recent childbirth. Jazz had a family background of runners and described her aunties and uncles as *really active,* often taking part in the community *Just Move It* running events.

To try something new, Jazz became interested in youth sports, so she gave basketball a try, followed by running and track activities. She continued these into high school on a more competitive level. Jazz described herself as "very fit," taking on physical challenges alone and felt that she would benefit by taking on more challenges alone. She was willing to help others to improve their abilities. Her father was the influential person in her life telling her 'don't give up on anything'. Her father was well disciplined in karate and never played other sports because his family could not afford it. Also, her family worked arduously at wood hauling and cattle ranching. They transported cattle to and from New Mexico to the family ranch on the reservation due to seasonal changes throughout the year.

Jazz described herself as a *scared kid* not wanting to do anything but *hung out* with other quiet students or friends who were more focused on academics. She made a

decision to give athletics a try to see what it was like when she was in middle school. She ended up having fun with it in high school.

Jazz took only ninth grade physical education. So she believed sport was the substitute for physical education. She recalled the routine was to run a mile before lifting weights. Competition was to do the most sit-ups and push-ups in a minute. Performing the vertical jump was a requirement. She thought the program was "pretty cool." Her teacher was "mellow", but strict and students had to run extra if the routine was not done correctly. Jazz felt that physical education was a time to get in shape by running so she did not mind the running aspect of the class structure. She remembered playing kickball and dodge ball. She *loved* playing dodge ball because *you* had to get *everyone* out so your team could win.

Jazz believed that physical education was an important daily aspect in school because she felt that "girls particularly are really self-conscience of themselves" and "for them to be more open, they have to be…in shape." *Physical activity* meant "keeping yourself in shape, having confidence to know you are in shape, and being agile to do things." Jazz maintained her daily physical activity by performing two-hundred sit-ups and then jogged a mile on the treadmill each morning.

Jazz believed that students were more active outside of school because she thought the younger generation was being taught of the need to be in shape. She noted a change in trend of senior students wanting a more "muscular" and "toned" physique to staying healthy and eating right. She was taught that getting "the right amount of sleep helps you the next day because you are more balanced, more refreshed and your body is well rested."

In a Diné Studies class, she read about the concept of *Hózhó* to mean "having harmony and love." She described its philosophy to "peace" and "being in balance and to live as peaceful people." Raised in Christian faith, Jazz believed that the Navajo traditional life comes from "made up" stories, stories based on the "Holy People" and "Maii," or Coyote, and in comparison, Christianity is based upon stories about the *life of Jesus.* Although she respects the tradition, she felt there was controversy between the two causing them to not connect. Based on what she gathered and understood about Navajo traditional living, Jazz thought that if *Hózhó* were exercised in the traditional way more often, people would probably *eat healthier* and have "a mentally good mind set of thinking." Although a non-Navajo speaker, Jazz understood some words when spoken to. She could not understand the reason why her parents did not speak Navajo to the children, but only spoke Navajo to others, such as, elderly people, her grandparents, to aunts and uncles.

Although Jazz was confident in her academic abilities and liked it more than sports, she still played sports. She believed healthy living concepts need to be taught in schools because some *kids* lack "structure" at home like they get in school. She believed school provided a "foundation" that some do not get at home and "they depend on learning, [because] learning has a lot of structure, such as, in writing, math, science, everything." She described a student whose home life was "hectic" and surrounded by alcohol with family members. He liked the school environment where it was "more calm" for him. She believed this student may benefit from the Dine way of life if he knows "what *Hózhó* is." She interpreted the meaning of *Hózhó* as having harmony in one's life.

Michael R

Michael R was a sophomore at age 16. He spent his first two years of elementary school in Mesa living with his mother. She maintained her fitness by walking, running and playing basketball. He moved back to the reservation to live with his father. He considered that the demands of being a cement truck driver kept his father very fit. Michael R. described himself a "competitive" and highly athletic playing football, basketball and track from middle school into high school. He liked ultimate Frisbee, matball, and being a member of the chess club at school. He enjoyed skateboarding, rock climbing and hiking on weekends. Michael R. joined youth football and basketball leagues with friends to improve his athletic skills.

Michael took *Strength and Conditioning* class at school that helped to maintain his fitness level for sports. The class ran two laps outdoors then followed a weight training routine. Open gym play on Friday's included basketball, mat ball, Frisbee play or volleyball. He recalled freshman physical education class as doing "drills," based on "physical tests" of skills and abilities, playing competitive team games and a few new games that he liked. Michael was influenced by the physical education teacher, but felt he was self motivated to engage in physical activity. He described middle school and high school physical education routines as the *same thing* with fitness tests, ultimate Frisbee or mat ball, and some weight training.

Michael R. learned that by being physically active, it "lowers chances of health risks like health diseases or heart problems, keeping safe from diseases" and "eating right" helps the body avoid "overweight" or "become obese". He believed that "everyone, all students [be] fit" by "staying active instead of being lazy…at home

watching TV". He learned about diabetic conditions from his grandparents who told him to "eat right" and to stay healthy. He used the food pyramid as the example to follow because of the basic food groups.

Michael R. learned in school about healthy living and the need to share information outside of school. He was in Navajo language class when he was learning of the term *Hózhó*. He dropped the class to take the Strength and Conditioning class. He said the school offered different clubs, such as drama club, chess club and cooking club. He said chess club was "fun" and "competitive" way to think. He described his community as "active" and sees many people running or jogging every day or taking part in charity activities.

His grandparents were the only Navajo speakers in the family. The family herd sheep and woodhaul every year. He stated that the principles of *Hózhó* may motivate some students because it has to do with our Navajo culture to live healthy. He believed that what his physical education teacher shares about healthy living may be in line with the concept of *Hózhó.*

Walter

Walter, 14, was in his first year at Sandy Ridge School as a freshman. Prior to coming to Sandy Ridge High, he lived in Provo where he grew up and attended elementary and junior high school. He lived near Sandy Ridge community with his stepmother who did domesticated work and yard work. His father was employed with the tribal government as a human resource director so his family moved around a lot. Walter lived on the Navajo reservation for a couple months and was trying to adjust into a small school setting compared to his former city school which had about 2,500 students. He

played rugby, soccer and football in Provo. All four brothers were physically active either engaging in long distance running, football or basketball; his five sisters were attending college.

Walter joined Sandy Ridge cross country team with his older brother and said the weight training program "was fun". He liked to work out on his own and attributed his knowledge about weight training to classes taken in Utah. He felt there was a "less competition" during tryouts in comparison to the city schools he attended. Since he liked the challenge in sports competition, he also planned to join football and basketball in his sophomore year.

Walter had freshman physical education at Sandy Ridge with a class of 30-40 students. Each class session started with two laps around the basketball court, stretching and then working on a particular sport. Once they learned about it, they were tested on it. They played badminton, football, basketball, volleyball and hockey for about two weeks at a time. He compared differences in schools; classes were larger in Provo with 40-50 students. He learned handball, lacrosse, and rugby, track and field events, like the shot put, and many other activities and sports. They spent one week at a time for each sport or activity. The Provo school population was about 2,500 students and rarely any Native American students attended the inner city Utah schools. Those whom he met were very shy and had socially awkward behaviors. He believed that students at Sandy Ridge lacked respect toward teachers and students were not afraid of being suspended.

Walter was not used to having co-ed physical education. As co-ed, he said that the class is "easy" for him and "the problem with co-ed is too many guys try to show off just for girls. So they don't really take it seriously." He stated, "I like trying my hardest at

sports cuz that's the only way I feel I like it's fun, not just shooting like shooting a couple baskets and then everyone laughing, I prefer just like playing a real serious game of basketball."

Walter was never interested in playing basketball in Utah, identifying it as a "dead sport". He said city schools were "huge" on "football" and "rugby." He "loved" playing soccer in 6th grade and gained an interest in rugby. He identified the game of rugby as a good learning sport and that "makes you focus more and focus around you." Walter learned the seriousness of competition in Utah because nearly 200 students tried out for the rugby team.

Walter ran often, every morning and evening before dark. He attended seminary at his church before school, rode the bus to school and sometimes played morning and afternoon basketball. He had morning physical education, attended study hall, followed by weight training afterschool and returned home about 6 pm. He sometimes played basketball in the evenings.

Although he had not learned any Navajo concepts in reference to healthy living, he generalized healthy living as "probably just going to fast food once a week, working out daily, getting enough sleep, just like taking good care of yourself." Walter got his influence from his stepmother to run in the early mornings, to eat healthy foods and get plenty of rest. She ran "on the treadmill" and tried "to stay as healthy as she can." But his father is a "really business guy" and "always gone and always doing meetings."

Walter's father was the only fluent Navajo speaker in the family and translated speeches from English to Navajo during church services. His stepmother spoke English and French. Walter learned French during junior high in Utah. He does not take part in

any community events, but he is highly active in his church activity which he identified as “church ball” which is an event where church members or “cluster of kids go against another cluster of kids in basketball” only for fun, simply an activity without the competitive edge.

At school, Walter was a member of the Deca Club which students prepared for business activities of which talk was entirely on how a business works. He liked the competition with other schools and the opportunity to present business ideas. He thought to become a business person when he was older. The best thing Walter liked about being a student at Sandy Ridge was “basketball [because] the education here is really easy” and did not like the idea of “not [being] allowed to choose” his courses and “that everything [was] given” to him. He believed that in order for its students “to succeed” classes were chosen for them because some students “wouldn’t select the right classes.” Walter added “there [are] not that many teachers so they can’t have that many classes”. So he identified the best thing “would probably be the sports for me [because] it’s less competition,” leading to his success.

In addition to Walter’s experiences at Sandy Ridge, he believed that all students had the opportunity to get something out of being in school. For him, it was playing sports unlike some students whom he felt “would rather play video games than engage in sports or any other activities.” In Utah, his experiences included taking ballroom dance, French lessons and a fashion class all of which he enjoyed. He thought that some students had super judgmental tendencies. When someone would take a certain elective, they “got made fun of a lot” and there was “too much peer pressure.”

He had come to learn that by participating in physical activity there are added benefits, such as "relieving stress and making the entire body stronger daily." Playing basketball was a stress reliever for him and "weight training was the best type of activity" to make his "entire body stronger." He also described it as a confidence builder, such that when students become better at an activity or sport he or she "will get really confident," however, over confidence is a bad thing. Walter had also learned that physical activity participation was very important because it "teaches pretty, pretty big fundamentals of everything of life, such as it teaches how to work with people, it teaches that you cannot do everything by yourself." He felt these were important concepts to learn.

Walter believed that what is not taught at home may be taught at school and vice versa. Either way, healthy living concepts should be taught and are very important concepts to learn. He also believed everyone should learn how to work with people. He believed that such skills would be beneficial in the workforce and that people cannot work entirely alone. He shared a real life situation where his father faced a challenging issue alone. He drove 8 hours every weekend to Provo to be with his family. So Walter and his family agreed to move to live on the reservation to be with their father.

Walter defined physical activity as probably just moving around classifying it as *physical* in relation to *physical sports* due to the nature of physical contact like ballroom dancing that requires being in contact with another. Other examples of physical activity he included were cheerleading and the game of chess. In terms of healthy living concepts, he thought that it should be taught in schools more, especially since most students do not know Navajo, the concept of *Hózhó* was a good concept to learn about.

Derek

Derek was born and raised on Navajo land. He was eighteen years old and a senior in high school. He grew up in a small remote community about twenty miles away from Sandy Ridge School. The community was located off road with no paved roads. His house was located on a hillside near mountainous terrain about 2 miles from the main highway. There were no stores in the community Derek lived in. The nearest stores were about 12 miles away. There was a tribal chapter house that was available for community use and events.

Derek and his siblings rode the bus to school every day. To catch the bus he and his sibling waited alongside the main highway for the bus to arrive. Since the bus route took about an hour, he felt that the school day was long for him. He took Strength and Conditioning class which was a weight training class primarily for students in grades 10th through 12th. Although his strength and conditioning class consisted of a small group of boys, he particularly liked Fridays which were *open-gym* days where students had the opportunity to challenge one another in basketball, volleyball, dodge-ball, or mat-ball in team competitions. There was also an opportunity for tournament scrimmage in these activities.

Derek has four siblings. His brother, the eldest, lived away from home about 40 miles away. The outdoor activity Derek and his younger brothers engaged in was Frisbee. He normally took the family dog on walks which he especially enjoyed doing. His little sister spent many hours in her room reading and studying. Derek sometimes rode his bike around with a neighborhood friend who was also a classmate from weight training class. But mostly, they *hung out* and talked about school or did their homework. Before Derrick

did any of his own activities, he helped his mother with the needed work around the house.

Derek's father worked part-time in construction and his mother, a *stay-home* mom, did work around the home every day. He considered his parents physically active based on the type of work they did daily. He and his brothers were responsible for helping out with the wood hauling and the outdoor work. His mother, his younger siblings and he sometimes took part in the "Just Move It" community walking/running events in the summer. This was a diabetes prevention community activity that he liked being a part of. Derek participated in the *JMI* events as much as possible and enjoyed walking its 3-mile outdoor course. He always enjoyed walking, especially with his family, and that the walking events make him feel good.

During summer, Derek and a few of his school friends would work at his local chapter house that offered a summer work program for high school students to work around the community. The workers were responsible for custodial, outdoor work, and the best part was helping with project planning meetings and schedules for chapter officers. Derek enjoyed drawing and planned to attend college to learn Native pottery and art design.

A typical day in Strength and Conditioning class for Derek started first with the class doing exercises then run two laps outside. In the weight room, the physical education teacher wrote the workout routine onto a white board for the class to follow. He usually worked the routine with this best friend. Derek had limited knowledge on the types of exercises and terminology, but by demonstrating the moves, he identified the military press, bicep curl, pull ups or chin ups, bench press, jump ropes and a few others.

Friday's for Derek's class was open-gym time. Open gym was time for playing basketball, volleyball or dodgeball. When the students took down the volleyball net, he knew it is tournament play for mat-ball (on some Fridays). He liked this set up for open-gym because at times his class will play against the freshman physical education class. He particularly enjoyed mat-ball which game components combined kickball and dodge ball. [***Matball*** is a game played with similar skills and rules from kickball and dodgeball combined. Same rules apply as kickball where large folding mats are used as bases. The runner may be eliminated by ball caught in the air, tagged out or hit any place from below the shoulders with a gatorball.]

The school's student council created activities like homecoming activities for all students to take part in. Derek liked across the grade levels competitions with activities like arm wrestling, tug-o-war, food-eating contests, cheering or yelling contests, and car jam. Derek was a part of the car jam. He was the 24th student to squeeze into a jam packed SUV of students! Derek believed that many students really liked these events and students-versus-teachers volleyball challenge that they made the students feel good.

Derek believed that healthy living concepts need to be taught in all class subjects but more in his Strength and Conditioning class. Although workouts were written on the whiteboard for students, the teacher rarely shared the importance behind the lesson. Students were required to copy the workout onto paper. His teacher then showed execution of the movement and had them perform various sets and repetitions. Derek identified that most students in his other classes would rather listen to music and nothing else. He included that listening to music seemed more important to those students than the instruction of the teacher.

Throughout childhood and high school Derek learned to live healthy by limiting his TV watching, avoid sitting around and eating junk food, such lifestyle was not practiced by his family. His parents disciplined him about responsibility with the outdoor work needed around the house and was also taught about importance of eating the right foods. His middle school physical education teacher taught him the importance of family by taking care of them, by watching your brothers and sisters. He learned sorts of exercises to be healthy, and take part in running activities.

He heard about the concept of *Hózhó* in middle school in a lecture. The presenter talked about diabetes related issues, eating right foods and too much fatty foods and eating the proper serving amounts. What Derek learned about *Hózhó*, he believed that it should be taught in schools. Students should learn and know about it so that they learn to take care their bodies, instead of eating a whole bunch of junk foods, and to learn exercising, running, walking with their dog, and chopping woods.

Both Derek's parents speak Navajo fluently. He and his sibling speak very little of the language but do comprehend when spoken to by their parents. He lost his grandparents when he was very young so he did not grow up learning much Navajo or traditional lifestyle activities from them.

An important thing for Derek being a student at Sandy Ridge was his work to get good grades in school so that he can attend college. He is interested in art and is able to create images from ideas he has thought of. He started making pottery at an early age and plans to continue this in college.

Summary

This section provided the profiles of eight Navajo high school students (Katelyn, Nelson, Jennifer, Angel, Jazz Lee, Michael R, Walter, and Derek). Each profile provided an introduction and description of each participant's family and personal experiences in physical activity, physical education and understanding of healthy living concepts.

Introduction to Physical Education Teachers, Culture Teacher, Dine Studies teacher and One Community Member

This part of the paper provides five (5) adult participant profiles for two physical education teachers, one culture teacher, one Dine studies teacher, and one community member. All participants are Navajo decent, with the exception of one physical education teacher who was Anglo. All participants resided within the boundaries of the Navajo Nation in Arizona. This part will provide the profiles of the following adult participants: Laura, Adam, Tina, Russell and Mary. The profiles will present an introduction to the participant and a description of each individual's family background and personal experiences in physical activity, physical education and healthy living.

Laura

Laura taught freshman physical education and health for 25 years at Sandy Ridge and coached volleyball, basketball and softball. She was born and raised off the reservation in a small copper mining town located in the south-central part of Arizona. She received her degree in physical education and health. Laura worked for the tribe a short duration then worked as a substitute teacher before her full-time teaching. She was 60 years old.

Her father attended school up to middle school and was physically active in school activities. He engaged in cross country, football and basketball from youth to adulthood. He was drafted into the Army at 17 during the period of WWII. Laura's mother was a stay home mom. She was a traditional woman who practiced ceremonies, sheep herding and farming. Laura's mother never attended school.

Laura's *chei* (grandfather) was a traditional medicine man. Her family practiced the Navajo tradition of ceremonial practice, song and dance. She learned to speak Navajo needed to know the purpose of ceremony and lived "a spiritual way of life" of getting up early before sun rise, do daily running, say prayers, and to stay active all day long. As traditional woman, she learned that a "female's place was in the home taking care of the family."

Laura grew up with four sisters and one brother and described herself as "tomboyish," often engaging in outdoor activities with her cousins. She played baseball, football, tag, hiked, climbed mountains, rode bikes, ran and created her own games with friends. Her aunt formed a women's softball team which she played on at age 8. Laura's father encouraged her in youth sports and high school athletics. She also worked exceptionally hard to maintain the "woman's place" in the home working to maintain the upkeep of the house and the traditional practice of running. She spent summers vacations in Cross Canyon on the reservation to sheep herd, cut wood and haul water in since her *naliis* had no electricity or running water. Laura liked the sheep herding activities because she and her siblings climbed the steep hills and canyons. Laura recalled working in cotton and vegetation fields in Morenci as she got older.

Laura reflected on her high school physical education. The school had only a universal weight machine and she was taught volleyball, swimming, tennis and basketball which had the modified rules of 3-players on each half of the basketball court. What she did not like was the "gym shorts" requirement. Since she was shy person and did not like wearing shorts at all, her first option was band, rather than physical education. Only two sports were offered to women in high school, tennis and volleyball. She recalled that "Title 9 changed the venue for women and sports" giving "more opportunities for girls to engage in athletics in high school and college." In junior college, she played volleyball, badminton, basketball, cheerleading and softball, with the team winning a national championship title.

In high school, her inspiration was pro tennis player, Chris Everett and US Team Volleyball Players, Debbie Green and Flo Hyman. She was also inspired to become a coach after watching a basketball game being played against Sandy Ridge High School. She received a scholarship and was determined to work hard as an athlete and college student and to achieve her goal to coach at Sandy Ridge School District.

Laura substitute taught for six years then she was retained as a full-time physical education teacher at Sandy Ridge. The school had no physical education curriculum; however, she felt that the progression from physical education in middle school into high school physical education had worked well. The high school had a one year requirement for freshmen: one semester of physical education, one semester of health education. With such a short timeframe for physical education, Laura attempted to teach as many activities as possible to give her students basic knowledge of various activities.

She described male students as “narrow-minded” since some they said that volleyball “is a girls’ game” and were reluctant to play. Girls on the other hand, showed no resistance toward playing football and engaging in all the activities. Laura avoided teaching basketball since she was not familiar with the game. She believed that the experienced players were set in their ways of playing the game and that it was a “community thing” that everyone plays. She taught fitness components and principles and taught that vocabulary was important in learning and to know the meaning of the specific terms “if they get involved with athletics.”

For health, her focus was to teach students about *themselves* and who they are, what self-esteem is, the health problems and diseases that affect Navajo youth, nutritional concepts, substance abuse, suicide, emotional issues and other related health issues. She shared experiences with racism she was exposed to living off the reservation. Also she believed that many students were not mentally ready when they left high school, especially for college.

She incorporated the purpose and value of exercise in comparison to the Navajo way and explained that running in the morning is a part of spirituality and the way of Navajo life. Some students know the value of running in Navajo culture, but most do not. Laura believed that students lack discipline, were immature and were becoming less respectful. She attributed the lack of knowledge in traditional living to technology with students placing more emphasis on computer games, cell phones and computer systems.

Laura’s first language was Navajo and she learned English growing up. Her parents spoke Navajo only. When teaching, she incorporated Navajo terms that related to subject matter. She emphasized the language because it is a part of *who* they are, Diné.

She stated that students tend to make fun and laugh when Navajo language is spoken in the classroom. Laura comprehended Hózhó and Ké and spoke of them as key terms to healthy living, although there was no English words to translate its meaning clearly. She interpreted Hózhó as "aesthetic" to mean "walking in beauty."

Adam

Adam taught physical education for six years at Sandy Ridge Middle School where he began his career. He transferred to the high school to teach strength and conditioning and health and was in his first year teaching at the high school level. He was 33 years old, working on a master's degree in Special Education. Adam grew up in a small, rural town, in Ohio. He played baseball, basketball, ran cross country, and track and field. He always worked hard in high school and college track and successfully broke indoor and outdoor relay team event records.

Adam's parents were athletes during their high school years, playing basketball. Neither of his parents attended college. He encouraged his sister to continue with sports throughout her high school years. His parents supported him and his sister in all their academics and sports participation. A close friend, Amber, and some cousins encouraged him to take part in different youth sports, and he also played in summer league sports of various types.

He recalled the following about elementary and secondary physical education, engaged in playing games and activities twice per week mostly outdoors. Middle school physical education was equipped with a gym meeting twice a week and structured with girls only and boys only classes, as well as Health classes.

Adam attended a junior college on a track scholarship and majored in physical education. His athletic background and engaging in team sports, influenced the physical education curriculum towards team activities and sports with an emphasis on physical conditioning and fitness testing. He also included concepts of lifetime activity and importance of physical activity in and beyond high school. He focused health lessons on the issues on diabetes, obesity, community issues of alcohol and substance abuse, and unhealthy food preparations that Navajo children and adolescents face.

Adam had taken part in Navajo ceremonies to gain a deeper understanding for the Navajo culture by participating in the different ceremonies as well as gaining knowledge from his wife, her family and his friends. Although Adam is not familiar with the concept of hozhó, he thinks the *Just Move It* community walking and running events were awesome for the community to get involved with. Representatives from the Navajo Nation Special Diabetes Project came to talk with their students and stated that students need to be exposed to the diabetes problem on the reservation.

As a physical education teacher, Adam would like to see more opportunities for physical activity programs or to increase the amount of physical education required throughout the district. He also thinks that healthy living concepts geared towards Navajo living and tradition may benefit students more since he feels that many Navajo students are disconnected with their tradition, culture and language.

Tina

Tina had taught for over twenty years and was in her 14th year teaching Navajo language courses and was the sponsor for the Native American club. She was 55 years old. Tina was an avid runner who walked or ran daily, and participated in aerobic

exercises. At about five years old, her father woke her up before the sunrise to run towards the east. She learned that of running had to be before sunrise so that the sun does not see you running. Tina was taught the importance of carrying on this traditional rite for its significance was to be physically fit in order to maintain strength of body, mind and spirit throughout life. Tina grew up with four siblings. An older brother endured the early morning running with her. She recalled that boarding school policy disallowed the practice of running for Navajo children. She was not able to continue the practice of running and looked forward to returning home from school.

Tina's father trained himself to run long distances. He used his running ability as a means to get to work and to take care of daily matters. Her father encouraged her to be a physically active person and to work hard. Tina's only physical education experience was when she attended an off-reservation boarding school for one year that had physical education as a requirement for freshman and also had recreational activities for dorm students. She played team sports that year then was transferred to Shiprock High School where she completed her degree. She was not interested in any other physical education classes or athletics. Instead she focused on completing high school and going to college. She continued her daily walks and morning runs at home which were the two activities she currently enjoyed. Although her children have acquired physically active behaviors, their interests are anything other than walking or running.

Tina's father was a traditional man and never attended regular schooling. Navajo was his first language and he never spoke English to her when she was growing up. English was her second language she learned in boarding school. In college she was inspired by her older sister to learn to read and write Navajo language. The transition of

hearing the sounds and being able to write it came easy for Tina. She incorporated the *Four Directions*, traditional farming and foods, traditional songs, and physical activity into her daily teachings to high school students. Tina interpreted of the meaning of physical activity as activities that involve whole body movements where all areas of the body was being used to complete an activity and encouraged her students to take care of their bodies through nutritional means. She believed that taking care of the body is more than a physical means, but taking care of the mind and heart is very important. Through her teachings, she aspired her students to become responsible young adults and to be strong in the Diné way.

Russell

Russell taught juniors and senior students and coached high school track and field. He taught Diné studies, Navajo government and a college readiness elective course. Russell was 28 years of age and was in his 6th year of teaching. He was pursuing a master's degree in athletic administration and coaching. Russell was born and raised in the city.

Russell described himself as a prodigy of his parents whom attended boarding schools. His father excelled in cross country and track and received a college scholarship. His mother only endured the practice of daily running throughout her life. Neither of his parents have college degrees. His aunt and uncle were also cross country runners at the same high school that he attended. Running has always been a part of Russell's family.

Russell's parents were highly influential and supported him in his endeavors to become talented runner and to live a physically active lifestyle. He grew up with four brothers whom were all involved in the family's daily activities of hauling wood, loading

bales of hay, herding sheep, repairing or fixing items, such as sheds or outhouses, and chopping wood. Russell grew up with strong influences for his work ethic to work independently to complete work without supervision. He spent his summers at his *másani's* house, his grandmother, where his job was to tend to the sheep for six to seven hours at a time. This was time for Russell to be out in nature and to enjoy walking, running, as well as, climbing through canyons and woodlands.

He recalled elementary school as focused and having an emphasis on physical education with about 2-hours each day spent in time outdoors during recess to engage in physical activity and simply running around playing tag with friends. Other games included kickball and dodge ball. Physical education in middle school was more structured with classes starting off with running a mile and performing stretching exercises. He learned badminton, archery, bowling, tennis, basketball, volleyball, and ping pong. He learned more than fundamentals; he learned scorekeeping and tournament play. High school physical education was a running class to maintain his physical fitness as a runner. He enjoyed active time with friends in school and in physical education classes. Russell reflected back on the social aspects of playing basketball with friends and gained a deeper understanding of the differences between competitiveness in sports and physically active play in school.

Russell was a member of the Wings of America Organization as a student-athlete and a mentor inspiring young Native American student-athlete runners through traditional concepts. Russell is a Navajo speaker and has incorporated traditional Navajo aspects into his own personal and professional life. His biggest goal was to have students realize their potential, reach beyond that point and also to make the experience of being an

athlete memorable. As an educator, he aspired for his students to attend and finish college. His future goal was to work at the college level as an athletic director and to coach college cross country and track.

Mary

Mary was born and raised on the Navajo reservation and worked in a department that services youth development in Navajo communities and chapters. She is 44 years old and had worked in the community for 23 years. She grew up in a rural Navajo community. She attended school and graduated from Sandy Ridge High School. Her maternal grandparents were a huge part of her upbringing as a child since her mother's forestry job kept her away from home for extended periods. Being outdoors during her youth was a huge part of Mary's life. Her grandparents owned a ranch so livestock, herding sheep, and planting corn and squash were a necessity for her to be a part of the ranch work. Mary was responsible for starting the fire and to help with cooking breakfast while her brother helped herd the cattle and sheep. She recalled going on horseback to look for watering holes for the cattle. She tends to these activities even today.

Additional physical activities included running, a teaching instilled by her grandmother. Running was very important in daily lifestyle for her entire family that she did in the evening times. Traditionally, Mary was responsible for making her cake during her *kinaaldá* ceremony at age 10 and it was her uncle's to determine how long she would run during each part of the run. [*Kinaaldá* is a puberty ceremony for Navajo girls. The ceremony requires four days of daily running by the young girl and a group of young individuals. The length and path of the run is determined by a family member, such as the uncle.]

Mary became involved with youth sport playing summer league baseball, volleyball, basketball and softball. She played middle school and high school sports. For physical activity, her mother would walk and run as often as she could to maintain her level of fitness for work. Her father worked in the construction field and was rarely ever home. Her father eventually developed diabetes and had triple bypass surgery. She attributed his health problems to lack of healthy food choices and lack of physical activity, hereditary conditions, and a family history of chronic substance abuse. Therefore, Mary had made a physically active lifestyle an important aspect of daily living and the choice of healthier eating to manage her body weight.

Mary's grandmother was very traditional and carrying out the work on the ranch was very important. She was told Mary, "Áádoo jooł bi kéé' naanáhí" which translates to "you can't be following the basketball or volleyball or softball all the time" and that "girls place is in the home." Mary, however, attended afterschool practice sessions regularly for school sports. This kept her away from the work at Cross Canyon.

Mary identified high school physical education having traditional sports, such as, volleyball, football, basketball, cross country and track running, with "customized programs" of a specific weight training program to maintain sport-based individualized fitness levels. The physical education teacher-coach continued this process year-round and had summer league intramural competition open for student-athletes and any interested youth.

Mary's influence to maintain her personal fitness levels that enabled her to endure the challenges of high school academics, athletics and summer league sports was instilled within her through her grandmother's foundation of having a hard work ethic. She was

taught to have a strong work ethic, culturally and traditionally. Mary attributed her practice of having a strong work ethic to her grandmother. Her grandmother was an inspiration for her to continue and practice cultural living and for traditional teachings to remain highly important. Her grandmother taught Mary how to pray and taught the meaning and interpretations of traditional stories, such as Changing Woman, stories about Dawn and about Night.

Summary

In this section, profiles of five participants were provided. Each profile has a brief introduction and background of experiences in physical education and physical activity and their understanding of healthy living concepts. The five participants include physical educators, Navajo language teacher, Dine studies teacher and a community member.

APPENDIX C

LETTERS OF APPROVAL

Window Rock Unified School District No. 8

"Embracing Change for Student Learning"

P.O. Box #559
Navajo Route 12
Fort Defiance, Arizona 86504

Dr. Deborah Jackson-Dennison
Superintendent

Office: (928) 729-6706
Fax: (928) 729-5780

January 11, 2013

Ms. Rachelle Jones
P.O. Box 777
Ft. Defiance, AZ 86504

Dear Ms. Jones,

This shall serve as official notification that the Governing Board of Window Rock Unified School District officially approved your request to conduct your research in working with high school schools here at Window Rock School District on Wednesday, January 9, 2013 at their regularly scheduled meeting in Ft. Defiance, Arizona.

Your dissertation on "Maintaining Hózhó: Perceptions of Physical Activity, Physical Education and Healthy Living Among Navajo High School Students" will I'm sure be both beneficial and useful in determining many aspects in the ongoing battle of diabetes among our Navajo people.

We wish you best in your research and study and welcome you to provide your findings to the Governing Board upon your completion.

Sincerely,

Dr. Deborah Jackson-Dennison, Ed.D.
Superintendent

xc: Governing Board
File

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Pamela Kulinna
From:	Carol Johnston, Chair Biosci IRB
Date:	03/25/2013
Committee Action:	**Amendment to Approved Protocol**
Approval Date:	03/25/2013
Review Type:	Expedited F12
IRB Protocol #:	1211008506
Study Title:	MAINTAINING HÓZHÓ: PERCEPTIONS OF PHYSICAL ACTIVITY, PHYSICAL EDUCATION AND HEALTHY LIVING AMONG NAVAJO HIGH SCHOOL STUDENTS
Expiration Date:	12/19/2013

The amendment to the above-referenced protocol has been APPROVED following Expedited Review by the Institutional Review Board. This approval does not replace any departmental or other approvals that may be required. It is the Principal Investigator's responsibility to obtain review and continued approval of ongoing research before the expiration noted above. Please allow sufficient time for reapproval. Research activity of any sort may not continue beyond the expiration date without committee approval. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol on the expiration date. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study termination.

This approval by the Biosci IRB does not replace or supersede any departmental or oversight committee review that may be required by institutional policy.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Biosci IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Biosci IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.

FORT DEFIANCE AGENCY COUNCIL
NAVAJO NATION

Harrison Plummer, President
Linda Youvella, Vice President
Joan M. Nez, Secretary
Ray Berchman, Sergeant-At-Arm

District 7 Council
District 14 Council
District 17 Council
District 18 Council

RESOLUTION OF THE FORT DEFIANCE AGENCY COUNCIL RESO: FDA-3-30-10-VIII-MB

Resolution to Support the Research Project titled "Maintaining Hozho: Perceptions of Physical Activity, Physical Education and Healthy Living among Navajo High School Students"

WHEREAS:

1. The Fort Defiance Agency Council comprises of twenty-seven (27) chapters recognized as a duly governing entity within the Fort Defiance Agency, Navajo Nation; and
2. The Fort Defiance Agency Council recognizes that pursuant to Title 26 Navajo Nation Chapters, Chapters has the responsibilities and authorities to protect, promote and preserve the interest and general welfare of its community people, programs and properties; and
3. The purpose is to advocate and support its community members for all their educational and non-educational endeavors; and
4. Ms. Rachelle Jones is pursuing a Doctorate of Philosophy in Curriculum and Instruction – Physical Education at the Arizona State University; and
5. The Fort Defiance Agency Council fully supports and endorses Ms. Rachelle G. Jones to complete her dissertation and report back to the Navajo Nation and its people.

NOW THERFORE BE IT RESOLVED THAT

The Fort Defiance Agency Council hereby supports and participates in the research study, "Maintaining Hozho: Perceptions of Physical Activity, Physical Education and Health Living among Navajo High School Students."

CERTIFICATION

We, hereby certify that the forgoing resolution was duly considered by the Fort Defiance Agency Council at a duly called meeting at Nahata Dziil Chapter, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 44 in favor; 00 opposed; 00 abstained, on this 30th day of March 2013.

Harrison Plummer, President
Fort Defiance Agency

M: Teddy Begay
S: Zondra Bitsuie

CITI Collaborative Institutional Training Initiative

Human Research Curriculum Completion Report
Printed on 8/9/2011

Learner: Rachelle Jones (username: rgjones1)
Institution: Arizona State University
Contact Information ASU Physical Education Department
Department: College of Education
Email: rachelle.jones@asu.edu

Group 2 Social & Behavioral Research Investigators and key personnel:

Stage 1. Basic Course Passed on 08/09/11 (Ref # 6429216)

Required Modules	Date Completed	Score
Introduction	07/31/11	no quiz
History and Ethical Principles - SBR	07/31/11	4/4 (100%)
Defining Research with Human Subjects - SBR	08/02/11	5/5 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	08/04/11	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	08/04/11	5/5 (100%)
Informed Consent - SBR	08/05/11	5/5 (100%)
Privacy and Confidentiality - SBR	08/06/11	5/5 (100%)
Research with Prisoners - SBR	08/06/11	4/4 (100%)
Research with Children - SBR	08/06/11	4/4 (100%)
Research in Public Elementary and Secondary Schools - SBR	08/07/11	4/4 (100%)
International Research - SBR	08/07/11	3/3 (100%)
Internet Research - SBR	08/07/11	4/4 (100%)
Research and HIPAA Privacy Protections	08/08/11	4/5 (80%)

Workers as Research Subjects-A Vulnerable Population	08/08/11	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects	08/09/11	2/2 (100%)
Arizona State University	08/09/11	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

APPENDIX D

CONSENTS & ASSENT FORMS

Informed Consent Form for Participants

Native American Students' Perceptions about Physically Activity and Physical Education

PARENTAL LETTER OF PERMISSION

Dear Parent:

I am a graduate student under the direction of Professor Dr. Pamela Kulinna in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research (two-part) study to find how students view physical activity and physical education and to determine the physical activity levels of high school students.

I am inviting your child's participation in the interview portion of the study. Your child's participation will involve one 60-minute **interview** session. The interview session will be audio-recorded and your child's name will remain confidential. Interviews will not interfere or be conducted during classroom hours. Your child's participation in this study is voluntary. If you choose not to have your child participate or to withdraw your child from the study at any time, there will be no penalty and it will not affect your child's grade. Also, if your child chooses not to participate or to withdraw from the study at any time, there will be no penalty. The results of the research study may be published, but your child's name will not be used.

Although there may be no direct benefit to your child, the possible benefit of your child's participation is to further our understanding of Native American youth's views of Physical Activity and Physical Education experiences and help others take students views into consideration in future educational programming efforts in the development of Indian education. There are no foreseeable risks or discomforts to your child's participation.

Code/pseudonym names will be used on any feature meaning that your child's name, tribal identity, age, location of residence, etc. will not be disclosed. The results of this study may be used in reports, presentations, or publications but your child's name will not be known/used.

If you have any questions concerning the research study or your child's participation in this study, please call me (or Dr. Pamela Kulinna) at (480) 727-1767 or Rachelle Jones at (480) 980-8405.

Sincerely,

Rachelle G. Jones

By signing below, you are giving consent for your child _____ (Child's name) to participate in the study to be interviewed.

_____	_____	_____
Signature	Printed Name	Date

If you have any questions about you or your child's rights as a subject/participant in this research, or if you feel you or your child have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

Informed Consent Form for Participants

Native American Students' Perceptions about Physically Activity and Physical Education

PARENTAL LETTER OF PERMISSION

Dear Parent:

I am a graduate student under the direction of Professor Dr. Pamela Kulinna in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research (two-part) study to find how students view physical activity and physical education and to determine the physical activity levels of high school students.

I am inviting your child's participation that will involve wearing a **pedometer** during school and at home for eight days. A pedometer is a small device that records the number of steps taken. The pedometer is worn at waist level. Your child will learn about pedometers and how to wear one appropriately. Your child's height and weight will also be recorded. Photographs may be taken during physical education or during physical activity participation. Your child's participation in this study is voluntary. If you choose not to have your child participate or to withdraw your child from the study at any time, there will be no penalty and it will not affect your child's grade. Also, if your child chooses not to participate or to withdraw from the study at any time, there will be no penalty. The results of the research study may be published, but your child's name will not be used.

Although there may be no direct benefit to your child, the possible benefit of your child's participation is to further our understanding of Native American youth's views of Physical Activity and Physical Education experiences and help others take students views into consideration in future educational programming efforts in the development of Indian education. There are no foreseeable risks or discomforts to your child's participation.

Code/pseudonym names will be used on any feature meaning that your child's name, tribal identity, age, location of residence, etc. will not be disclosed. The results of this study may be used in reports, presentations, or publications but your child's name will not be known/used. Photographs may be used during presentations but your child's name will not be disclosed.

If you have any questions concerning the research study or your child's participation in this study, please call me (or Dr. Pamela Kulinna) at (480) 727-1767 or Rachelle Jones at (480) 980-8405.

Sincerely,

Rachelle G. Jones

By signing below, you are giving consent for your child _____ (Child's name) to participate in the study that requires wearing a pedometer.

_____	_____	_____
Signature	Printed Name	Date

If you have any questions about you or your child's rights as a subject/participant in this research, or if you feel you or your child have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

Informed Consent Form for Participants

Native American Students' Perceptions about Physically Activity and Physical Education

LETTER OF PERMISSION FOR ADOLESCENTS

My name is Rachelle Jones. I am a graduate student at Arizona State University under the direction of Professor Dr. Pamela Kulinna in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to find how high school students view physical activity and physical education.

I am asking you to take part in a research study because I am trying to learn more about the views of physical education and physical activity from high school students and to evaluate the physical activity levels. I want to learn about how physical education and physical activity is important to you and types of activities you participate in. Your parent(s) have given you permission to participate in this study.

If you agree, you will take part in a 60-minute **interview** session. The interview will be audio-recorded. You will be asked how often you are physically active, types of exercises you do during physical education and at home. You do not have to answer any questions that make you uncomfortable.

Your participation is voluntary. You do not have to be in this study. There are no penalties nor will anyone be mad at you if you decide not to do this study. Even if you start the study, you can stop later if you want. You may ask questions about the study at any time.

If you decide to be in the study, your responses will be confidential and no will be given information about you, such as your name, age, grade, tribe, your responses, etc. A **code**/**pseudo name** will be used. Even if your parents or teachers ask, I will not tell them about what you say or do in the study.

Although there is no financial benefit by participating, this study and your added participation will be valuable to Arizona State University and the Native American communities. Signing here means that you have read this form or have had it read to you and that you are willing to be in this study.

Signature of subject_____

Subject's printed name _____

Signature of investigator_____

Date_____

Informed Consent Form for Participants

Native American Students' Perceptions about Physically Activity and Physical Education

LETTER OF PERMISSION FOR ADOLESCENTS

My name is Rachelle Jones. I am a graduate student at Arizona State University under the direction of Professor Dr. Pamela Kulinna in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to find how high school students view physical activity and physical education and to determine physical activity levels.

I am asking you to take part in a research study because I am trying to learn more about the views of physical education and physical activity from high school students and to evaluate the physical activity levels. I want to learn about how physical education and physical activity is important to you and types of activities you participate in. Your parents have given you permission to participate in this study.

If you agree, you will be required to **wear a pedometer** during school and at home for eight (8) consecutive days. You will be asked how often you are physically active, types of exercises you do and to record step counts. Also, your height and weight will be measured during physical education class. Photographs may be taken during physical education or during physical activity participation.

You do not have to be in this study. Your participation is voluntary. There are no penalties nor will anyone be mad at you if you decide not to do this study. Even if you start the study, you can stop later if you want. You may ask questions about the study at any time.

If you decide to be in the study, your responses will be confidential and no will be given information about you, such as your name, age, grade, tribe, your responses, etc. A **code**/**pseudo name** will be used. Even if your parents or teachers ask, I will not tell them about what you say or do in the study. Photographs may be used during presentations but your name will not be disclosed.

Although there is no financial benefit by participating, this study and your added participation will be valuable to Arizona State University and the Native American communities. Signing here means that you have read this form or have had it read to you and that you are willing to be in this study.

Signature of subject_____

Subject's printed name _____

Signature of investigator_____

Date_____

Informed Consent Form for Participants

Native American Students' Perceptions about Physically Activity and Physical Education

INFORMED CONSENT FOR PHYSICAL EDUCATOR/CULTURE TEACHER

Dear Participant:

I am a graduate student under the direction of Professor Dr. Pamela Kulinna in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to find how Navajo educators and community members view of physical activity and physical education. Your participation is strictly voluntary. However, the researcher is required to receive your informed consent before you participate.

The research study will involve one 60-minute interview session. The interview will be audio-recorded. Photographs may be taken during your physical education class. If you choose not to participate or to withdraw from the study at any time, there will be no penalty or loss of benefits. The results of the research study may be published, but your name will not be used.

Although there is no direct benefit to you, your participation is to further our understanding of Native American views of Physical Activity and Physical Education experiences and help others take Navajo educators/community members views into consideration in future educational programming efforts. There are no foreseeable risks or discomforts during your participation.

All information provided by participants will be confidential and code/**pseudonym names** will be used on any feature. Your name, tribal identity, age, and location of residence will not be disclosed. The results of this study may be used in reports, presentations, or publications but your name will not be known or used. Photographs may be used during presentations but your name will not be disclosed. At the end of the study, all hard copies will be destroyed through paper shredding.

If you have any questions concerning the research study or your participation in this study, please call me, Rachelle Jones at (480) 980-8405 or Dr. Pamela Kulinna at (480) 727-1767.

Sincerely,

Rachelle G. Jones

By signing below, you are giving consent for your participation in the above study and have been given a copy of the consent document.

_____	_____	_____
Participant Signature	Printed Name	Date

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

APPENDIX E

DEMOGRAPHIC FORMS

Student Information Sheet

Physical Education Project **ID**_____

Date _____

Age _____

Grade _____

Gender Boy or Girl (Please Circle)

Teacher's Name _____

Ethnicity:

_____Native American Tribe: _____

_____Caucasian (white)

_____African American (black)

_____Asian – American

_____Hispanic

_____Other (please specify) _____

Physical Education/Culture Teacher Information Sheet

Name: _____

Date: _____

School:_____

1. Gender: θ male θ female

2. Ethnicity:

θ African-American θ Hispanic-American
θ Asian/Pacific Islander θ American Indian/AK Native
θ Caucasian θ Other (please specify)__

3. Education level attained: θ Bachelors θ Masters
θ Specialist θ Doctorate

4. How many years have you taught physical education (including elementary, middle and high school)?

____Years

5. In what field(s) are you certified to teach? List year certified:

Major _____ Minor _____ Other _____

6. How often do you attend workshops related to Physical Education? (check one)

_____ Once a month _____ Occasionally _____ Once a year
_____ Twice a year _____ Never

7. How often do you attend workshops related to Navajo Cultural Studies? (check one)

_____ Once a month _____ Occasionally _____ Once a year
_____ Twice a year _____ Never

APPENDIX F

RECRUITMENT SCRIPT

AND

INTERVIEW GUIDES

Native American Students, Educators and Community Members Perceptions about Physically Activity and Physical Education

RECRUITMENT SCRIPT

Ya'teeh. Shí éí, Rachelle, yinishyé. A doó ne'e nishlí nígíí eí yá Nakaidiné eí nishlí. Tódách'íínii eí báshísh chíín. Hónaghánii eí da shi chei. Táchíí'nii eí da shi nálí. Ákó t'ao asdzá nishlí.

Hello, I'm Rachelle Jones. I am a graduate student in Curriculum & Instruction from Arizona State University under the under the direction of Professor Kulinna from the Department of Physical Education. My doctoral program requires a research study. However, I am required to receive your informed consent prior to your participation in this study.

I am asking you to be in a research study. The purpose of the consent form is to give you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask questions about the purpose of the research, what I would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When I have answered all your questions, you can decide if you want to be in the study or not. This process is called 'informed consent.' I will give you a copy of this form for your records.

I (Rachelle Jones) will explain the research in detail: 1) purpose and benefits; 2) what you will be asked of you and how long your participation will last; 3) confidentiality of your information (if collected); and 4) if there are any risks involved.

Purpose and Benefits

Student Participation: I am conducting a research study to get a better understanding of high school students' perceptions of physical activity, physical education and living healthy lifestyles. I am also interested in knowing what the physical activity levels are of high school students.

One part of participation will include *one* sixty-minute interview. A second part of this study will be to examine the physical activity patterns of Navajo adolescent students by using pedometers. To gain the perspectives, eight Navajo students (9-12 grades) are needed and will be interviewed individually (once) for 60-minutes in this study. The second part includes wearing a pedometer for 8 days in school and for 24-hour periods.

The benefits of this study are to share what Navajo high school students think about physical activity and physical education. This research will help gain insight to the influences Native American youth experience which impact and encourage physical active participation during school and outside of school and to gain an understanding of the traditional aspects of cultural living.

Physical Educator/Culture Teacher Participation: I am conducting a research study to get a better understanding of physical educators and culture teachers' perceptions of physical activity, physical education and living healthy lifestyles.

Your participation will include *one* sixty-minute interview. To gain the perspectives, five Navajo educators and community members are needed and will be interviewed individually in this study.

The benefits of this study are to share what Navajo physical educators/culture teachers' think about physical activity, physical education and living healthy lifestyles. This research will help gain insight to the influences Native American experience physical activity which impact and encourage physical active participation during within a community to gain an understanding of the traditional aspects of cultural living.

Procedures

If you choose to participate, you will be interviewed for one hour (once). The interview will be audio-taped. After the interview, I will make a complete transcript of your words and from my notes. I will give you a copy of the transcribed words for you to read and approve. If you feel that the transcript that I write is not accurate, I will make changes to the transcript that you request. The interview will consist of questions about your experience relating to physical activity and physical education and some family background relating to physical activity and living healthy. Lastly, I will ask about specific issues you think are important about physical activity, physical education and living healthy according to traditional standards. You may also refuse to answer any question I ask.

The second segment of the study includes wearing a pedometer. A pedometer is a small device used to record the number of steps-counts movements taken and is worn at waist level for accuracy. The pedometer will be worn for 8-consecutive school days and for 24-hour periods. All information from the pedometers will be recorded daily.

Confidentiality

All information provided by participants will be kept confidential. Your name will be replaced with a code name or number and the key that reveals your information (pseudonym), such as hard copies of information collected and analyzed, will be kept under lock and key in a locked cabinet in Dr. Kulinna's office at Arizona State University. Dr. Kulinna will be the only individual with access to the files.

When I discuss my findings and write about this research I will use false names and places and change specifics so that people and places cannot be identified. I will use the audiotapes to make written transcripts of your words. They will not be heard by anyone not on the study staff. I will use information from this study in papers, publications, my dissertation, and in academic presentations. Your statements will be retained indefinitely.

Risks
There are no foreseeable risks or discomforts in your participation.

Your participation in this study is voluntary. If you have any questions concerning the research study, please call me at (480) 980-8405, or Dr. Pamela Kulinna, (480) 727-1767. You may also contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

INTERVIEW PROTOCOL for STUDENTS

INFORMATION FOR INTERVIEWERS: This protocol is a modification of I.E. Seidman's (2006) 3-part interview series, with the 3 parts condensed into a single 60-minute interview for 3 participant categories in the study. Questions are designed to maximize a free flow of participants' experiences related to physical activity, physical education and healthy living practices.

Part I: Focused Life History – Placing Participants' Experience in Context	**Part II: Details of Experience – Concrete Details of Participants' Experience in Physical Activity, Physical Education and Healthy Living Practices**	**Part II: Reflections on Meaning – Intellectual and Emotional Connections to Physical Activity, Physical Education and Healthy Living Practices**
Let's talk about you and your family and your physical activity experiences — • Tell me about the types of physical activities and sports that you, your family and the community engage in. • How old are you now? What grade are you? Where did you grow up? • What do parents do? • How many brothers and sisters do you have? • Do your siblings and parents engage in physical activity • Share kinds of physical activities engaged in at home? With friends? • Where do you engage in or participate in physical activity the most?	Let's talk about your classroom and school — • How many other students in your class? • Kinds of physical activities you do at school? • What part of the school day is physical education? • Share with me your experiences of the school's physical education program. • How is physical education an important aspect in school and daily life patterns to you? • Tell me about some activities that you do in P.E. and outside of P.E. which have more meaning to you and why? • How and when does the PE teacher or classroom teacher share information with you about the concept of healthy living? • What specific concepts	Let's talk about what being a student at (school) means to you — • What is the best thing about being a student at (……) school? • What do you like about participating in physical activity during? • Given what you said about participating in physical activities during school, why do you feel it is important? • Do you think the physical education teacher should teach on the concepts of healthy living? Why? • Is it important to you that you are taught these concepts in school and at home? How? • Is it important to you that you are taught Navajo concept of Hózhó and its daily healthy living practices? Why? • Important to you to learn

	have you learned, such as, physical activity, healthy eating, sleeping, being active outside school, etc? • What specific concepts have you learned about the Navajo concept of Hózhó and healthy living? What does your teacher do to help you learn about the Navajo concept of Hózhó and healthy living? • Do your parents/grandparents help you learn Navajo concept of Hózhó and healthy living at home?	about Navajo concept of Hózhó? Why? • What do you think you will continue participating in physical activity when you grow up?

INTERVIEW PROTOCOL for PHYSICAL EDUCATORS

Part I: Focused Life History – Placing Participants' Experience in Context	**Part II: Details of Experience – Concrete Details of Participants' Experience in Physical Activity, Physical Education and Healthy Living Practices**	**Part II: Reflections on Meaning – Intellectual and Emotional Connections to Physical Activity, Physical Education and Healthy Living Practices**
Please tell me as much about your own experiences in physical activity and culture background and how you came to be a physical education teacher — • Where born and grew up? • Tell about your parents: physically active backgrounds? • Where did you go to school? • Important people/teachings about healthy living in your life? • Personal physical activity experiences in school? Outside of school? • Memories of physical education in school? • How came to be a physical education teacher? • How many years teaching? • How came to teach at (…….)? • Other experiences that were/are important to you in your present position?	• Who or what inspired you to become a physical education teacher? • Tell me about the curriculum and traditional activities that you included in your class teachings in physical education? How often do you do this? • Tell me about any activities that you encourage your students to do? To not do? • What are your impressions of the Navajo traditional concepts of Hózhó and K'é as it relates to living healthy? • Do you believe that the concepts of Hózhó and K'é impacts student in maintaining healthy living and participation in physical activity? At what grade levels are impacted the most? How often do you talk to your students about these concepts?	Given what you have said about the Diné language and culture program, what does it mean to you as an educator? • Your aspirations for (….) students? • Your aspirations as a teacher? • What are your goals and outcomes as a physical education teacher? • What improvements would you make in physical education class to encourage more physical activity participation? • Benefits students gain from your physical education program? • What have been the greatest rewards to you as a teacher? • What factors have been most important in the physical education program's success? • What have been the greatest challenges or barriers? • What would you want other educators to know about your physical education program? • Where do you see your teaching going in the future? • Other comments/questions/ideas?

INTERVIEW PROTOCOL for CULTURE TEACHER

Part I: Focused Life History – Placing Participants' Experience in Context	**Part II: Details of Experience – Concrete Details of Participants' Experience in Physical Activity, Physical Education and Healthy Living Practices**	**Part II: Reflections on Meaning – Intellectual and Emotional Connections to Physical Activity, Physical Education and Healthy Living Practices**
Please tell me as much about your own experiences in physical activity and culture background — • Where born and grew up? • Tell about your family: physically active backgrounds? • Where did you go to school? • Important people/teachings about healthy living in your life? • Tell me what you remember about your personal physical activity experiences in school? In your daily life? • Memories of physical education in school?	• Tell me about any physical activities that you were encouraged to do? To not do? • Who or what inspires you to maintain a physically active lifestyle? • What do you do to support and inspire school-aged youth to do their best to maintain healthy living? • How do you promote and support meaningful traditional living as it relates to physical active engagement at home or at school for youth? • What role do parents play in helping youth to understand the importance of physical activity and healthy living? If you are a parent, what specifically have you done to teach this content? • What are your impressions of Hózhó and K'é as it pertains to traditional and modern lifestyles of healthy and active living?	Given what you have said about the healthy living practices and physical activity, what does it mean to you as an member of the community? • Your aspirations for Navajo students? • Your aspirations for physical educators? • What types of improvements would you like to see in school physical education programs that will encourage more physical activity participation for students? • What changes would you create in your school to facilitate a greater balance between active lifestyles for Navajo youth? • What factors have been most important in the teaching of Hózhó and K'é and living healthy lifestyles? • What have been the greatest challenges or barriers? • What would you want others to know about Hózhó and K'é and living healthy lifestyles? • Other comments/questions/ideas?

APPENDIX G

PHYSICAL ACTIVITY FORMS

Daily Activity Log

Please fill out the following *Activity Log* information daily.

Name _____ Today's Date: _____

Pedometer Number _____

A) How did you get to school this morning (circle one):

Walk **Bike** **Car/Truck**

Bus **Other_____**

B) How did you get home from school yesterday (circle one):

Walk **Bike** **Car/Truck**

Bus **Other_____**

[Record the number of steps for the following from your pedometer.]

		Number of Steps
D	Until you arrived at school?	
E	Before P.E. Class?	
F	After P.E. Class?	
		Number of Steps
G	*Until before recess/lunch?*	
H	Until after recess/lunch?	
		Number of Steps
I	Until you left school for the day?	

Thanks!

Pedometer Number: _____ Date: _____

My Previous Day's Activities

1. Did you do any of the following activities yesterday: (Check all the activities you did yesterday)

_____play an after school sport _____ride your bike
_____roller blade _____go swimming
_____horseback riding _____skateboarding
_____other physical activity - write the activity/activities _____
_____.

2. Did you take the pedometer off before going to bed? **Yes** **No**
3. Did you put the pedometer on when you got dressed this morning? **Yes** **No**
4. Did you wear the pedometer the entire time? **Yes** **No**
5. Was there any other time you took the pedometer off yesterday? **Yes** **No**

If yes, how long did you have it off? _____

6. Did you go to Physical Education yesterday? **Yes** **No**
7. Did you engage in any physical activity during your lunch break today?

Yes **No**

If yes, how many times? _____

If yes, what did you do? _____

Weekend Activity Log

Please fill out the following *Weekend Activity Log* information for Saturday and Sunday.

First & Last Name: _____

Pedometer #:_____ Date: _____

How many steps did you take…

[Record the number of steps for the following from your pedometer.]

		Number of Steps
A	When you woke up Saturday morning?	
B	When you went to bed Saturday night?	
C	When you woke up Sunday morning?	
D	When you went to bed Sunday night?	

E) Did you take your pedometer off each night before going to bed?

YES NO

F) Did you put on your pedometer on each morning when you got dressed?

YES NO

G) Did you wear your pedometer throughout the day?

YES NO

H) Was there any other time during the weekend you took the pedometer off? YES NO

If yes, how long did you have it off? _____

Thanks!

Weekend Activity List

Please check the activities that you engage or participated in during the weekend for Saturday and Sunday.

What activity did you participate in?

[Check the box of the activity that you participated in for each day.]

ACTIVITY LIST	Saturday	Sunday
Running		
Cross Country		
Walking		
Bicycling		
Football		
Baseball or softball		
Animal & livestock feeding		
Rope jumping		
Skateboarding		
Yard Cleaning		
Swimming		
Sheep Herding		
Horseback Riding		
Chopping Wood		
Frisbee		
Walking		
Wrestling		
Basketball		
Volleyball		
Kickball		
Dance		
Pushups		
Sit-ups		
Jumping Jacks		
House Cleaning		
Hackie Sack		
Other (Please list activity below)		

APPENDIX H

PEDOMETER PROTOCOL

Protocol for Pedometer Data Collection

Pedometers are used to determine physical activity levels of youth by measuring daily step counts. Pedometer step counts will be recorded for eight consecutive days (e.g., beginning on a Monday and ending on Monday of the next week). This step-by-step process will guide you throughout this segment of the study: Eight days of step counts at the high school.

Day 1

1. *Orientation*
   - Pedometers are little machines that measure the number of steps you take.
   - Reset button position. (It is important that you do not reset the pedometer. See below.*)
   - Your pedometer must be worn on the belt or waistline, in line with the right knee. Ensure the pedometer is securely attached at the proper position. The pedometer must remain in the upright vertical position in order to accurately register the counts.
   - Please ensure your name is written on your assigned folder.

2. *Pedometer Distribution*
   - Distribute based on designated pedometer number. A number to your pedometer is written on it. Please write your assigned pedometer number on your folder.

3. *Review of Procedures with Physical Education Teacher*
   - Students will be recording step count data for eight days along with the transportation questions each day.

Day 2 -7

4. Prompt to Record Step Counts
   - Prompt students to record data and make any notes regarding problems or issues with the data collection. Contact your physical education teacher.
   - Use standard abbreviations if needed.
      - F = Forgot
      - L = Lost
      - D = Damaged
      - C = Pedometer number changed
      - R = Pedometer returned

   * Students will **reset** pedometers **ONLY** at the start of Physical Education class. The pedometers are to not be reset any other time.

5. **Resetting Pedometers**
   - After all the data has been recorded prompt students to close and put their pedometers back on. (Again, the only time the pedometers are reset is first thing at the start of physical education class.)

6. **Daily Activity Logs**
   - Turn in your daily activity logs once you record your steps prior to the start of physical education class. Your teacher will collect/keep the activity logs.

7. **Day 8 – Return Pedometers**
   - Please return your pedometer to your physical education teacher.

8. **Address Lost or Damaged**
   - We encourage you to make notes on the data sheet. This will be very helpful when we are analyzing and having to refer the data one or two months after the project.

Day 8

1. **Record Step Counts**
   - Students record their last day of step count data.

2. **Return Pedometers**
   - After all the data has been recorded. Turn record forms to your physical education teacher. Place the pedometer in the proper container.

3. **Collect Pedometers**
   - Place a check mark by all of the pedometers that are returned on the list of pedometer assignments by teacher.
