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Exploring The Impact And Benefits Of A Health Education Program At Turtle Mountain

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EXPLORING THE IMPACT AND BENEFITS OF A HEALTH EDUCATION PROGRAM AT TURTLE MOUNTAIN

by

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This dissertation, submitted by Shane Martin in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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Shane M. Martin
May 16, 2015

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ACKNOWLEDGEMENTS

The process of putting myself through the rigor of a Doctoral Program has been a huge struggle. When I look back, I am fascinated by how fast the last three years have gone and what an arduous journey it has been. My thoughts are filled with the education and new knowledge that has been bestowed upon me as well as the friendships and heartaches that have happened along the way. I wouldn't have changed it for the world.

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ABSTRACT

The Turtle Mountain Chippewa Tribal members in North Dakota have long suffered from severe poverty and accompanying social stresses that threaten the social fabric of the community. Ninety percent of students attending college from the Turtle Mountain Reservation qualify for educational assistance based on financial need (Northwest Area Foundation, 2014). Youth, between the ages of 10 and 18, struggle with historic and present day, multi-generational, trauma and poverty exhibiting risk factors exemplified by suicide attempts; depression; hopelessness; despair; alcohol, meth and/or other substance abuse; increased anger; conflicts; aggression, violence; and poor performance in school. Schools on the Turtle Mountain Reservation estimate that up to two-thirds of youth, approximately 1000 students are thus at risk (Poitra, 2010).

The Belcourt Youth Activities Program/National Youth Sports Program (BYAP/NYSP) was created to address those factors of ill health, lack of education, poverty, and poor nutrition, obstacles to the wellness of Native Americans at Turtle Mountain.

The purpose of the study was to explore the impact and benefits on participants of the BYAP/NSYP program at Turtle Mountain Chippewa Reservation and to identify if differences exist between the value placed on exercise, nutrition and education of females

compared to their male counterparts. Using experiential learning as a conceptual framework, questions were created from a hypothesis that, "Students do receive impact and benefit from a health and wellness program BYAP/NYSP". Experiential learning is demonstrated by participants who use an experience, actively test that experience, and then create a new experience (Kolb & Kolb, 2010). Demographic data and information concerning the impact and benefits of the program was obtained through a 25-question survey administered to adults 18 years and older who had participated in the summer program as youth at some point during the past 10 years. Of the 200 program participants invited to respond to the survey, 52 responded.

Results indicate that the BYAP/NYSP program does impact and benefit health and wellness as well as increase the knowledge of responding participants. The results showed this program to be effective in the Native American community of Turtle Mountain. Additionally, results indicate that there is no statistical significance to support the hypothesis that females value education and nutrition more than men.

CHAPTER I

INTRODUCTION

Early ancestors of the Turtle Mountain Band of Chippewa were nomadic. Their movement was annual and ranged between the Red River Valley of North Dakota and the Rocky Mountains of Montana. This western journey was for hunting, trading, gathering (foods, hides, and herbal medicines), and for spiritual quests. Winters were spent in the valleys near the present day town of Walhalla. Spring thaws signaled the time to move before the coming of the floods.

While traveling across the area of northern North Dakota and the Canadian border, various crops of corn, potatoes, beans, turnips, and other mainstay vegetables were planted. With the sun as their calendar, Native Americans knew that spring was time to plant. As experiences in the past had determined, the knowledge of what soils best grew specific crops was used during the planting season. As the journey continued through western North Dakota, they began following the Yellowstone River to the Sweet Grass Buttes of Montana and then into Blackfoot territory. Here, the western trip ended with the harvesting of the sweet grass used in ceremonies.

On the return trip, buffalo and other game were hunted. The hides of the various animals were tanned and meat dried. Herbs, roots, and berries were gathered and dried. Crops planted on the journey westward were now ready to be harvested. All this

preparation was necessary for the long westward winter ahead. Truly, the Chippewa people were among the first agriculturists of North Dakota (Gailfus, 2006).

The short story above is just a small piece of the journey that was once a lifestyle of the nomadic Turtle Mountain Band of Chippewa Indians. Since then, things have changed. These nomads now live life on a reservation, 6 x 12 miles wide, and their once highly traveled paths are reduced to a small parcel of land known as the Turtle Mountains.

Statement of Problem

As evidenced by the following data, the Turtle Mountain Chippewa Tribal members have long suffered from severe poverty and accompanying social stress that threatens the social fabric of the community. According to Job Service, in 2008 the median household income for Rolette County was $24,514, 58% of the national level while the average per capita income was $8,855, less than half of the United States average (Job Service North Dakota, 2013). Rolette County Social Services, that includes the Turtle Mountain Reservation, administers the largest Aid to Families with Dependent Children (AFDC) caseload of the 53 North Dakota counties with 698 families being served in December 2000. In that same year, 1,423 households participated in the food stamp program. In 1996 the AFDC program was changed to the TANF program under the Personal Responsibility and Work Opportunity Act and President Bill Clinton's administration. In 2013, there were 1,386 Temporary Assistance for Needy Families (TANF) recipients. Among those, the age group, 0-19 accounted for 26.2% of the caseload statewide in North Dakota (Annie E. Casey Foundation, 2013). In 2013, 65% percent of adults on the reservation were unemployed,

compared to 4.1% in North Dakota and 9.7% in the United States (United States Department of Labor, 2013). Ninety percent of the students attending college from the Turtle Mountain Reservation qualify for educational assistance based on financial need (Northwest Area Foundation, 2014).

Education

The following data, provided for historical purpose, establishes the importance of education for Turtle Mountain people. In 2000, the average educational attainment for Turtle Mountain High School students was 10 years of public education, with 55% of students enrolled as ninth graders graduating from high school, compared to an 89% graduation rate in North Dakota (United States Department of Commerce, 2000). In 2013, the average educational attainment for Turtle Mountain students was 10 years of public education, with 69% of students enrolled as ninth graders graduating from high school, compared to an 88.4% graduation rate in North Dakota (North Dakota Department of Public Instruction, 2013). The numbers indicate that while the graduation rate in North Dakota declined slightly, the graduation rates at Turtle Mountain High School increased. Between 2001 and 2005, the three public school districts in Rolette County serving tribal members reported graduation rates ranging from 43% to 96% (North Dakota Department of Public Instruction, 2012). Of the 2,295 youth and young adults between the ages of 16 and 24, at least one-third, nearly 800 individuals, had dropped out of school and were unemployed (United States Department of Labor, 2013).

On a national level, most Native American children receive only a general education and, in the Bureau of Indian Education (BIE) schools, the high school

graduation rate for all students is 50% compared to a national average of 75% (Heitkamp, 2014). Graduation rates are a concern for the Turtle Mountain High School, which has a high school dropout rate of 36%, a graduation rate of 64%, and an attendance rate of 90% (North Dakota Department of Public Instruction, 2013). These numbers indicate a lack of educational attainment creating the conditions of a poor economy and poor health for the tribe as a whole. For these reasons, a lack of education is correlated with poor health.

Native American students attend bordering town schools in large numbers and interact socially with each other and within the various towns that serve the Indian community in the medical clinics, hospitals, social services, teaching, etc. Consistent poor graduation rates of the Turtle Mountain High School can be attributed to an influx and efflux of students dropping, enrolling and then re-enrolling in bordering towns and Turtle Mountain Community School.

"Of those American Indian students who earn a high school diploma, only 17% begin college, compared to a national average of 62% and only 4% of those who begin college make it through the financial, emotional, and academic challenges of the first year of college" (Indian Country Today, 2011, pg. 1). Ultimately, 11% of Native people in the United States have a degree, less than half of the norm for the rest of the country. Most Native American students are first-generation college students, a major contributing factor as to why only one in five American Indian students complete their first college year (Indian Country Today, 2011).

Mental Health

Mental health is considered a piece of overall health and wellness. Consequently, a discussion regarding the state of mental health as it relates to health and wellness education in Native American populations follows.

Native American suicide attempts and suicide fatalities are a major problem and public health concern for reservations. Related behaviors such as suicide ideation, planning, and attempts are escalating, public health concern for Native Americans (Poitra, 2010). According to the Center for Native American Youth (2014), the child mortality rate for Native children ages 1 to 14 has increased 15% since 2000, while the mortality rate in the United States has decreased 9% for those same ages. It also notes that suicide is the second leading cause of death in American Indian children aged 15 through 24, a rate that is 2.5 times the national average (Center for Native American Youth, 2014). In the years 2003 to 2009, 144 youth, ages 5 to 24 on the Turtle Mountain Reservation exhibited suicidal behaviors with seven resulting in fatalities. Sixty-six percent of reservation youth reported they had thought about suicide and 42% of those reporting suicide behaviors reported involvement in substance use (Poitra, 2010).

Depression and other mental health problems contribute to high rates of learning problems, conduct disorders, substance and alcohol abuse, running away, and suicide attempts among our youth (Reichmann, Wadsworth & Deyhle, 2004). Research also informs that perceived prejudice is a significant indicator of suicide risk (Whitbeck, 2002). Couple that risk with low self-esteem, poverty, and minimal preventative education, and Native American youth become more susceptible to suicide attempts.

Risk Factors

Many youth between the ages of 10 and 18 struggle with historic and present day multi-generational trauma and poverty (McLeod, 2011). They exhibit several risk factors including suicide attempts, depression, hopelessness, despair, recent loss of family or friends by death or suicide, alcohol, methamphetamine and/or other substance abuse, increased anger, conflicts, aggression, violence, and poor performance in school. Schools on the Turtle Mountain Reservation estimate that up to two-thirds of youth, approximately 1000 students, are therefore at risk (Poitra, 2010).

According to Riechmann (2004), children and families live under an accumulation of generational, unresolved, historical trauma and cultural breakdown; severe poverty and social deprivation; community disorganization; family conflict; and management problems which are aggravated by alcohol and drug abuse (Riechmann, Wadsworth, & Deyhle, 2004). Children lack positive role models that could bring them hope. Depression and other mental health problems contribute to a high rate of learning problems, conduct disorders, substance and alcohol abuse, runaways, and suicide attempts among adolescents (Riechmann, Wadsworth, & Deyhle, 2004). Risk factors multiplied several times impact the daily life of native youth and as stated in the research, the more risk factors present, the greater the likelihood young people will develop health and behavior problems (Hawkins, Catalano, & Miller, 1992).

To what degree perceived prejudice impacts native youth is unknown, but the potential to occur is present. This is also a contributing factor that shows the need for programs that teach prevention education, help with self-esteem, and provide lifelong

learning. These approaches, along with a "Healthy Body, Healthy Mind" attitude will help youth become aware of the dangers and pitfalls that occur throughout adolescence.

When interrelated economic and social stresses continue to be unrelieved in a community, risk factors multiply and perpetuate a vicious cycle that continues until the causes of stress are effectively dealt with enabling destructive cycles to be broken and replaced with positive self-amplifying cycles of healing and well-being (Howard et al., 1996).

Health Issues

According to information provided by the Turtle Mountain Tribal Diabetes Program, one of the biggest concerns for youth and families is the onset of cardiovascular disease as well as other diseases associated with being overweight (Special Diabetes Programs for Indians, 2010). Of 1,000 students tested in grades kindergarten through eighth grade in 2010, 46% or 460 students are obese or overweight. Of the overweight children, 12% show early signs or symptoms of diabetes (Ferris, 2012). Research by Arcan et al. (2012) indicated that 70% of all overweight children would become overweight as adults. If this holds true, 345 of the 460 Turtle Mountain students who were overweight will remain overweight or obese as adults. The consequences of poor health will negatively impact the Indian Health Services, a great burden for any health care system in rural America.

The occurrence of chronic illnesses such as diabetes, high blood pressure, heart disease, and obesity has been a continuous problem among Native Americans. It has been documented that members of the Turtle Mountain Chippewa Tribe suffer from high incidents of diabetes, heart disease, substance abuse, depression, suicide, poor diets, and

inactive lifestyles. According to Sandeep D. Patel, pediatrician at the Indian Health Services (IHS) in Belcourt, North Dakota, almost 30% of the Turtle Mountain youth ages 6 to 11 years of age are considered obese as compared to the national average of about 15%. The rate of diabetes in American Indian populations is 17% higher than the U.S. general population (Center for Native American Youth, 2014).These statistics show the need for nutrition education, preventative education and the promotion of health and wellness curriculum at Turtle Mountain (Patel, 2014).

Theoretical Base and Conceptual Framework

The conceptual framework used throughout this study was experiential learning (Maxwell, 2005). According to Mackenzie & Knipe (2006) a conceptual framework is a theoretical framework. Albon & Mukherji (2009) cite Bogdan & Biklen (1998) as defining a conceptual framework as 'a loose collection of logically related assumptions, concepts and propositions that orient thinking and research'. Hughes (2001) describes a conceptual framework as a way of seeing the world that 'frames a research topic' and influences the way that we think about the topic. That framework of experiential learning was linked to the assumption that a health and wellness program would have positive impact and benefits on past participants. The experiential learning elements and styles founded by David A. Kolb (1984) were put into practical application throughout this study. Health promotion, and disease prevention past research along with health studies drawn from experiential learning formed the basis of the conceptual framework used in this study.

Information provided in the existing data guided this study's initial hypotheses that when involved as youth in the longstanding 10 year BYAP/NYSP program, adults

would respond that it had a positive impact and benefits. This study focuses on using participant's experiences to enhance and expand understanding.

One function of a conceptual framework is to position research within the context of existing theory and research (Maxwell 2005). The conceptual framework should not define the results of the study, real-world experiences are what inform the conceptual framework. Organized ideas and past experience serve as purpose for a given study however, Smyth (2004) cautions to avoid allowing the framework to limit the research results by forcing too much through the lens of the framework.

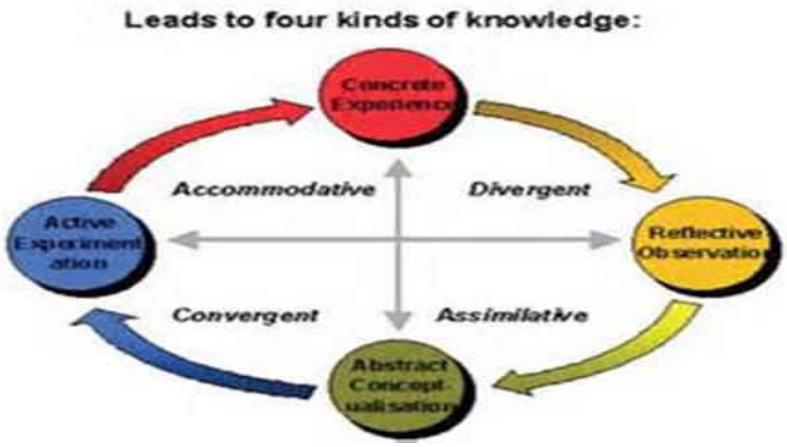
The conceptual framework informing this study is experiential learning. Maxwell (2005) defines experiential learning as the influence and background that the researcher has on the study and how that informs the design. Experiential learning as a method of educating through first-hand experience where skills, knowledge and experience are acquired outside of the classroom setting is the foundation from which the study emerged (Firestone, 2014).

The concept of experiential learning was articulated and promoted by John Dewey and made popular by David A. Kolb (Firestone, 2014). Prior to the concept of experiential learning, Dewey's earlier work reflected on education as "Learning by Doing" (Dewey, 1933). John Dewey originally wrote about the benefits of experiential education in 1938 where he stated, "there is an intimate and necessary relation between the processes of actual experience and education" (Coffey, 2014). Dewey believed designing effective education is built around understanding experience and then relating that experience to traditional and progressive education (Dewey, 1938). Traditional education was defined by Dewey as, "a system that focuses on curriculum and cultural

heritage for its content" and is different from how he explained progressive education, "a system that focuses on the learner's interest without constraint from the educator which allows for individualism, spontaneity, offers growth and expression" (Dewey, 1938). Coffey (2014) argued that by focusing only on the content, the teacher eliminated the opportunity for students to develop their own opinions of concepts based on the relationship with the information. Kolb (1984), like Dewey, believed that education needed to be grounded in experience and was a process and not an outcome. Jerome Bruner (1966) later acknowledged Dewey's work by adding, "Knowing is a process and not a product."

Merriam, Caffarella, & Baumgartner (2007) believed American educational theorist David Kolb added to Dewey's work when he stated, "Learning is the process whereby knowledge is created through transformational experience and is continuously gained through both personal and environmental experiences". Cherry (2014) acknowledged that the experiential learning theory proposed by Kolb takes a more holistic approach and acknowledges experience, environment and emotions as factors influencing learning (p. 2).

Diagram A. David A. Kolb's (1984) Experiential Knowledge Diagram.



Kolb's (1984) four kinds of knowledge learning cycle illustrated in the diagram above depict learning as experience translated through reflection. The four elements were used as guides for active experimentation and the choice for new design. The four elements can be described as concrete experience, reflective observation, abstract conceptualization, and active experimentation. Initially, Kolb and Fry's (1975) research of Jean Piaget's "1970 Model of Learning and Cognitive Development" held belief that a learning cycle can begin at any one of his four stages (Do Stage, Observe Stage, Think Stage, Plan Stage) and that his model should be approached as a continuous learning spiral. Kolb & Kolb (2010) later transferred that acknowledgment of the four stages to the Four Kinds of Knowledge Diagram and elements inserting that learning can begin at any element of the learning cycle. According to Kolb (1984), if learners are to be successful, they need to have the four kinds of learning abilities. He explains the elements as, "The first element, concrete experience (CE), is where the learner actively involves themselves in an activity such as field work; The second element, reflective observation (RO), is where the learner consciously reflects back on their experience from multiple perspectives; The third element, abstract conceptualization (AC), is where the learner creates concepts and integrates their observations into sound theories; and, the fourth element, active experimentation (AE), is where the learner must use those theories to make decisions and solve problems"(p. 40).

As Kolb & Kolb (2010) acknowledge based on their earlier work from1984, particular life experiences, and the environment help develop a preferred way of choosing among the four learning elements. From the earlier research work, Kolb created the learning styles that are associated with each element and are categorized by

personal characteristics of the learner which lends to their preferred way of accumulating knowledge. Each of the four types of learning styles has dominant learning abilities in two areas (Cherry, 2014). Four learning styles identified through the research were the diverging style, assimilating style, converging style, and accommodating style (Kolb & Kolb, 2010). Kolb & Kolb (2010) concluded, "The diverging style is closely associated with a learner who uses concrete experience and reflective observation as their dominant learning abilities. Those with a diverging learning style have broad cultural interest and perform best in brainstorming activities, are imaginative, emotional, have an open mind and specialize in the arts. This learning style is also closely associated with those that like to work in groups, listen with an open mind and like receiving personalized feedback" (p. 10).

In this study, the learners aligned closely with the diverging learning style, experience with the BYAP/NYSP program, and cultural knowledge which guided this research, and contributed to the formulation of the research questions and null hypotheses presented. This relationship among the elements and styles are framed in the Experiential Knowledge Diagram A. Utilizing this framework with the BYAP/NYSP programs main objective of the program, "To provide a systematic process that provides quality health education to youth during a four-week period", the experiential learning elements and the diverging style of learners helped develop a general question, "How does experiential learning impact and benefit the health and wellness received through BYAP/NYSP participation in areas of education, nutrition and physical activity?" and frame the design, "Exploring the Impact and Benefits of a Health Education Program at Turtle Mountain." The relationships, traditions and experiences helped form the second

question “Do females place more value on education than males?” Sue & Sue (2003) stated, “Native Americans have a high fertility rate, a large percentage of out of wedlock births, strong roles of females and families headed by a single mother or another family female adult (p. 43)”. Data from the United States Department of Commerce (2010) shows that female’s lead males as single heads of households in Turtle Mountain families and extended families as well as leading the number of single heads of households in American Indian communities across the United States. These statistics, past references and experiences were used in determining the formulation of the hypothesis that females place more value on exercise, nutrition, and education than males because of their primary role as heads of households in the Turtle Mountain community.

Need for the Study

There is no formal documentation of how Turtle Mountain Tribal Members view the impact and benefits of health education in relation to their health and wellness. As noted in the review of literature, there is a need for information in the areas of self-sustainability, lifelong fitness, and nutritional related activities to assist in guiding wellness programs for native people.

There is also a critical need to develop culturally relevant and effective intervention strategies targeted at the Turtle Mountain community to interrupt a trend toward obesity and the resulting cardiovascular problems that are at epidemic levels on the reservation. Currently there are a number of prevention and intervention programs available for community members; however, the effectiveness of these programs has never been evaluated, nor has it been determined if these programs have life-long

learning as an objective. It is likely that unless intervention strategies are rapidly implemented to modify the behaviors of the adult population on the Turtle Mountain Chippewa Reservation and the American Indian population throughout the United States, the very future of Native American Indians is at risk.

Over 100 years have passed since the ancestors of the Turtle Mountain Chippewa Tribe roamed free, lived off from the land, and relied on teaming to survive and to keep their identity. Reservation life has been hard on the tribe's heritage and health. Once a proud nation, with each member having a role and responsibility within the tribe, most members no longer know their roles or responsibilities and, it seems as though their culture and heritage is gone as well. As a result of reservation life, little or no movement is increasingly causing diseases related to hypo-kinetic (no-movement) disorders like diabetes, cardiovascular diseases, chronic kidney disease, and cancers.

Within the last century, as evidenced by results of studies on the Native American population, these conditions have increased dramatically among the Native American people. Epidemics of diabetes, drug and alcohol addictions, tobacco use, suicide, cardiovascular and chronic kidney diseases, depression, and cancers are plaguing Native American people in large numbers. Sedentary life, no careers, lack of education, and poor nutrition are major contributors to these types of diseases and habits seen among the Native people. It appears that these conditions have not changed and the future health and welfare of the Native American people is at stake. Therefore, this study was needed to explore the impact and benefits on participants of a health education program at Turtle Mountain and is necessary to determine if health programs have made an impact.

Purpose of Study

The purpose of the study was to explore the impact and benefits on participants of the BYAP/NSYP program at Turtle Mountain Chippewa Reservation and to identify if differences exist between the value placed on exercise, nutrition and education of females compared to their male counterparts.

The health education program explored for impact and benefit was the National Youth Activities Program/ Belcourt Youth Activities Program (NYAP/BYAP), a four week summer education prevention program focusing on nutrition education, physical fitness, suicide prevention, tobacco prevention, drug and alcohol prevention, and career outlook and opportunity, offered to youth ages 7-17 for the past ten years at the Turtle Mountain Chippewa Reservation. The program collaborates with and utilizes the local Indian Health Service Hospital, the local Tribal Diabetes Program, Turtle Mountain Community College and local school systems. Each year between 200-250 youth are recruited to participate for a four week time period, Monday through Friday, four hours per day. Program participants receive a t-shirt, incentives for good sportsmanship, citizenship and leadership, nutritious meals, a medical screening, and daily transportation to and from the camp, all at no cost.

The National Youth Sports Program, later known as the Belcourt Youth Activities Program (BYAP), initiated working with youth on the Turtle Mountain Reservation in 2003. As a result of the acknowledgement accorded to the success of the program by funding agencies, several grants have been awarded to the program through the National Institute of Health, Housing and Urban Development, Rural Business Development, and United States Department of Agriculture. Those grants enabled

implementation of community gardens, youth education prevention programs, and experiential activities. A capital campaign building upon the success of the BYAP resulted in the construction of a 3.4 million dollar dome entitled the "Byron Dorgan Youth Wellness Center" which had a ground breaking in early 2013 with construction completed and a grand opening in February 2014.

The educational component includes courses taught daily in Nutrition Education, Prevention Education, Diabetes Prevention, Career Outlook and Opportunity, Cultural Representation, Drug and Alcohol Prevention, Tobacco Prevention, and Physical Activity (two hours of daily physical activity to promote heart healthy living) facilitated through a fitness and wellness curriculum guide and whole child learning approach. Each lesson in the courses taught provide youth with academic instruction, skills training and competition in a variety of sports activities designed to improve physical fitness and health habits, and exposure to educational and career opportunities. Cultural curriculum includes traditional native presenters, language, music and dance. The "Rezipe" guide of food is used in the nutrition course.

According to the Association for Supervision and Curriculum Development (2014) the whole child teaching approach to education is defined by policies, practices, and relationships that ensure each child, in each school, in each community, is healthy, safe, and engaged, supported, and challenged. It engages all stakeholders—educators, families, policymakers, and community members—in defying the percentage proficient culture of too many school reform efforts, to focus on each child. And it further raises the bar of accountability beyond narrow, single-issue improvement strategies to efforts that reflect the broad array of factors influencing long-term success rather than short-

term achievement. While classroom lectures primarily address the cognitive domain, experiential learning involves the whole student: their cognitive, affective and physical domains (Oxendine, Robinson, & Wilson, 2004). Through this teaching, students relate to subject matter in a way that is meaningful with their own lives (Kirk & Thomas, 2003).

The camp, as it has come to be called, is driven by a well-articulated staffing plan, needs criteria, general activities guide, structured programming, cultural honorariums, speakers, a well-defined and articulated evaluation process, and sound recruitment strategies. The first objective of the program is to provide a systematic process that provides quality health education to the youth during a four-week period. Character development is an essential objective in planning the activities. The program strives to instill in youth, personal attributes, traits or abilities in relation to the civic role one assumes in the eye of the public, which should not be that different from their real self and what they strive to be on a daily basis.

The second objective addresses the youth's health and well-being through physical activities, which increase stamina to sustain interactions with people and objects, in the environment. Various large muscle motor skills necessary to move about and access the environment are emphasized along with fine motor skills using the arms and hands to interact meaningfully with objects and activities in the environment. Skills that enable youth to perform essential self-preservation and maintenance skills independently of others are taught and practiced. Intrinsic within the program objectives is the desire to establish and sustain a youth program for economically disadvantaged youth.

Conservation Day Camp, a one-day course is offered through the United States Department of Agriculture Natural Resources Conservation Service in collaboration with the North Dakota Game and Fish, Rolette County Extension Agency, North Dakota Forestry and the NRCS Agricultural Services to enable NYSP/BYAP to present this valued component. Eight stations provide twenty minute lessons with materials designed to teach about soils, soil tunneling, wildlife, wetland ecosystems, tree identification, range, cultural and basic engineering.

The program is based upon the framework of experiential learning and the whole child learning approach. The education provided, and the hands on engaged activities implemented provide foundation to support the theory that people learn by doing and even more so, that knowledge and experience is retained to a greater extent than traditional classroom education. Past participants of the program should show a positive impact upon their health and wellness as adults as a result of participating in this program. The focus throughout this research, exploring the correlation between participation in the BYAP program as youth and positive impact and benefits on health and wellness as adults, is directly tied to the conceptual framework of experiential learning.

Assumptions

The following assumptions were made.

1. The participants provided accurate, honest, and forthright responses.
2. The survey instrument was appropriately administered.

Researcher's Background

The researcher is an enrolled member of the Turtle Mountain Band of Chippewa and resides on the Indian reservation. He has worked as the Athletic Director and Wellness Coordinator for the Belcourt School District and Turtle Mountain Community College for the past ten years. His academic titles include a Master's Degree in Business Management and a Bachelor's Degree in History and Political Science in Secondary Education with a Physical Education Minor. He is a Certified Personal Trainer and Certified Strength and Conditioning Specialist through the National Strength and Conditioning Association (NSCA) and plans on completing a Doctor of Philosophy Degree in the spring of 2015.

The networks and positive working relationships with the Turtle Mountain Community established through the years is the strength behind this study. After working in the field of education for the past eleven years, he was named the North Dakota Indian Educator of the Year in 2011. His background in teaching and learning is concentrated in a whole child teaching approach. This style ties in with the framework of experiential learning and lends itself to applications of theory and methods associated with that framework. He is the founder of the NYSP/BYAP program and the contents of the program in its entirety.

Research Questions

The following research questions guided this study:

1. How does experiential learning received through the Health Educational Program on the Turtle Mountain Indian Reservation impact the health and wellness of participants?

2. Do females place more value on exercise, nutrition and education than males on the reservation?

Null-Hypotheses

The following null-hypotheses were used in this study:

1. Health promotion, wellness programs do not have impact and benefit in Native American communities.
2. Females will report that the health education program did not have a more significant impact and benefit than reported by the males.

Delimitations

For the purpose of this study, the following delimitations were established:

1. The survey instrument was designed specifically to collect data from participants of a summer health education prevention program on the Turtle Mountain Chippewa Reservation.
2. Only individuals who participated in a summer health prevention education program entitled NYSP/BYAP at different times over a ten year period were surveyed.

Definition of Terms

The following definitions are used throughout this body of research:

Accommodating Style. People associated with getting things done, taking risks, solves problems intuitively and performs well when required to react to immediate circumstances.

American Indian. A person who is a member of a United States Government recognized Indian tribe. The term American Indian will be used interchangeably with the terms "Indian" and "Native American."

Assimilating Style. People associated with a strong ability to create theoretical models, which excel in inductive reasoning who are concerned with abstract concepts rather than people.

Career outlook and opportunity. A job or occupation regarded as a long-term or lifelong activity.

Converging Style. People associated with strong practical application ideas that focus on hypo-deductive reasoning for specific problems and are unemotional with narrow interests.

Culture. Learned, nonrandom, systematic behavior that is transmitted from person to person and from generation to generation (Huff, Kline, & Peterson, 2015).

Diverging Style. Person associated with being strong in imaginative ability who is good at generating ideas and seeing things from different perspectives, interested in people and who has a broad cultural interest.

Education. The imparting and acquisition of knowledge through teaching and learning, especially at a school or similar institution.

Experiential knowledge. The influence and background that the researcher has on the study and how that theory informs the design.

Intervention. The act of intervening, especially a deliberate entry into a situation or dispute in order to influence events or prevent undesirable consequences.

Nutrition. The process of absorbing nutrients from food and processing them in the body in order to keep healthy or to grow.

Physical fitness. The state of well-being that is achieved through a combination of a good diet, regular physical exercise and other practices that promote good health.

Prevention. An action or actions taken to stop somebody from doing something or to stop something from happening.

Past theory and Research. Other's published work and theories of work involved within the scope of a study.

Acronyms

The following acronyms are used throughout this research:

AC-Abstract Conceptualization

AE-Active Experimentation

AFDC-Aid to Families with Dependent Children

AI/AN-American Indian/Alaskan Native

BIA-Bureau of Indian Affairs

BYAP-Belcourt Youth Activities Program

CDC-Center for Disease Control and Prevention

CE-Concrete Experimentation

CKD-Chronic Kidney Disease

CVD-Cardio Vascular Disease

EPSCoR-Experimental Program to Stimulate Competitive Research

FDPIR-Food Distribution Program on Indian Reservations

HPDP-Health Promotion Disease Prevention

IHS-Indian Health Services

NSCA-National Strength and Conditioning Association

NSF-National Science Foundation

NYSP-National Youth Sports Program

RHD-Rheumatic Heart Disease

RO-Reflective Observation

SPSS-Statistical Package for the Social Sciences

TANF-Temporary Assistance for Needy Families

TMHA-Turtle Mountain Housing Authority

USDA-United States Department of Agriculture

YPLL-Years of Potential Life Lost

Organization of the Study

This study is organized into five chapters. Chapter I introduced the study, statement of the problem, need for the study, theoretical context, purpose of the study, background of the researcher, research questions, delimitations, assumptions and definition of the terms. Chapter II presents the review of the literature related to the importance of a health education prevention program. Chapter III includes the design of the study, a description of the research methods, survey instrument, and procedures used in the study. Chapter IV presents an overview of the statistical procedures and a description of findings for each of the question items and variables. Finally, Chapter V describes the conclusions, implication of the findings, discussion, and recommendations for further study.

CHAPTER II
REVIEW OF LITERATURE

Turtle Mountain Band of Chippewa Indians History

Over 100 years ago, a once nomadic tribe of Chippewa Indians, through treaties, were forced to move to a 6 x 12 mile Indian Reservation known as the Turtle Mountains. The context of this chapter reviews the history of life pre-reservation and post-reservation for the Native American and factors that impacted the health and wellness of the people at Turtle Mountain.

The preponderance of evidence is that American Indians and Alaska Natives descended from Northern Chinese and/or Mongolian peoples who made one or more migrations to the Western Hemisphere beginning 20,000 or more years ago. As a result, Indians share certain genetic traits with Mongolian populations to a far greater degree than with Europeans, some of which influence disease patterns (Gasgow et al., 2004).

Kline & Huff (2007) stated, "Despite a long history of economic and political forces amassed to destroy Northern Plains Indians' and their culture, tribal communities have maintained their integrity and have endured into the late 20th century". The tribes now associated with the High Plains had, in fact, migrated to the area from points farther east. Migration took place during the colonial period after 1650 as European settlement expansion forced many Indians westward (Kline & Huff, 2007).

Many whites doubted if Indians could ever be incorporated into white society and concluded that they represented an obstacle to Anglo wealth and progress. Some

white newspapers and politicians openly called for Indian extermination. Civil War General Philip Sheridan famously declared that the "only good Indian was a dead Indian." Sheridan was hardly alone in his sentiments. As described in Phillips (2006), the *New York Herald* declared that, for the Indian, the drawing of blood was "as much of a passion as it is to the tiger or the shark, who has no possibilities of civilization, and whose fate must be extermination . . ." (p.164). Even as the *Herald* declared the Indian doomed, the newspaper preferred the more passive approach of penning Native Americans in overcrowded, disease-ravaged, reservations, hoping that nature would provide a "final solution" to the Indian problem.

The Medicine Lodge Treaty of 1867 assigned reservations in the Dakota Territory to Arapaho, Cheyenne, Comanche, Apache, and Kiowa Tribes by squeezing these people together with already imprisoned Bannock, Navajo, Shoshone, and Sioux Tribes. Eventually more than 100,000 people scrabbled for existence on bleak, shrinking lands. These different Indian Nations battled over dwindling resources. At the same time, corrupt Bureau of Indian Affairs (BIA) officials routinely stole government aid meant for the Indians. This embezzlement reduced Indian food supplies, thus promoting malnutrition, disease, and widespread depression on the reservations (Phillips, 2006).

The so-called "Reservation Period" of Anglo-Indian relations lasted roughly from 1867 to 1887. Well-meaning liberals, ignoring the diversity and complexity of Indian culture, hoped that the reservations would provide an atmosphere in which "primitive" migratory Indians could be converted into stationary, law-abiding wards of a white republic. An excerpt from US History.org states, "The problems with this approach were manifold. Besides the moral issue of depriving a people of life on their

historic land, many economic issues plagued the reservation. Nomadic tribes lost their entire means of subsistence by being constricted to a defined area. Farmers found themselves with land unsuitable for agriculture. Many lacked the know-how to implement complex irrigation systems. Hostile tribes were often forced into the same proximity. The results were disastrous" (U.S.History.Org, 2014).

After several years of turmoil, The Dawes Act of 1887 was enacted to help officials show a change of direction to minimalize the effects of reservation life in which many American Indians succumbed to disease, alcoholism, and despair on reservations (U.S.History.Org, 2014). The Dawes Act gave each American Indian 160 acres of land in which to operate and hopefully help in subsistence living. As mentioned above, this meant nothing to the American Indian due to a lack of know-how in farming a land that took substantial expertise. Helen Hunt Jackson wrote a heartbreaking 1881 bestseller, *A Century of Dishonor,* which detailed white brutality towards the Native population and inspired many readers to call for reform in Indian policy. *A Century of Dishonor* documents the United States Government's abuse of treaty rights, their rejection of Indian Tribal Sovereignty, and details much of the horrific violence committed by white settlers against the native populations (Jackson, 1881).

Reformers hoped that Indians would win acceptance by whites and would rise from poverty if they could be induced to surrender their language, culture, religion and traditions, and accept white cultural norms. Reformers saw reservations as training grounds for Indian citizenship and the term "Americanize" (Phillips, 2006).

Tragically, for many Indians, the reservations more closely resembled a concentration camp. The Indian population, about 2.5 million at the time of first

European contact in 1492, had dropped to 250,000 by 1890. This appalling death rate only accelerated at the end of the 19th century, a situation attributable to the food shortages and poor sanitation that prevailed in overcrowded reservations (Phillips, 2006). "With the buffalo gone, and their pony herds being constantly decimated by the inroads of horse-thieves, they must soon adopt, in all its varieties, the way of the white man" (Jackson, 1881, p. 16). Primitive Indians depended on whole foods, especially whole animals to carry out the mainstay of their diets. Whole foods are defined as un-processed and un-refined, before being consumed. They typically do not contain added salt, carbohydrates or fat. When Indians abandoned their traditional foods and began consuming processed foods, their health deteriorated rapidly (Fallon & Enig 2000).

Tribal Historian, Kade Ferris (2012), described interactions between Chippewa Leaders and the United States Government as told to him by the Tribal Ancestors:

> In 1891, a commission was formed by the federal government to review the validity of the Chippewa claim to the area north and west of Devils Lake. The Chippewa claimed their right to this land was derived from several treaties. The government commission in charge of reviewing these claims concluded that, as nearly as they could ascertain, the Pembina Chippewa title to these lands, totaling between 8,000,000 and 10,000,000 acres, had never been ceded to the government and their claim was recognized by neighboring tribes. The commission was therefore forced to report that the Turtle Mountain Band of Chippewa Indians had "as valid an original Indian title to the entire tract of land as any Indian tribe ever had to any tract.
>
> Compared with its treatment of the other tribes concerned in the Minnesota Massacre of 1862, Kakenwash asked the commission the following question: Have we or our ancestors ever ceded the lands we claim? If we have, there must be some record of it on the files in Washington, and if there is, we ask the commission to show it to us. If we have ceded this land we will no longer make a claim to it, but if we have not, we ask the Government to deal rightly with us. The Government has not taken the lands of other Indians, even its worst enemies, without securing the Indian title. What right, then, has the Government to reduce us to two townships? We are unlearned and cannot read or write and we ask the commission not to deceive us, but to inform us truly whether or not this land has ever been ceded to the Government. Through all the Indian wars we have been

the friend of the white man, and though often provoked by injustice and imposition, we have never resented. And yet we have noticed that every time the Sioux Tribes have risen against the Government and killed white settlers, the Government has gone down into its pockets and increased their provisions, and paid them well for their lands, while it arbitrarily seeks to deprive us, who have at all times been its friend, of our homes.

Others reiterated the Tribe's claim for the reservation to be returned to the 1882 limits and pleaded their love for their ancestral home at Turtle Mountain. The Turtle Mountain Reservation was too small to accommodate allotment for all of the Indians, and the Government was worried about having to settle claims due to a lack of land at Turtle Mountain, coupled with the fact that it had allowed too many white settlers into the Turtle Mountain region before legally settling all matters with the Tribe. Ultimately, the commission was working to cover their mistake in creating a situation that could not now be changed; that it was impossible for a large number of Turtle Mountain Indians to take allotments within the two townships of the reservation. There were only 13,000 acres of tillable land on the reservation, and Congress could not be induced under any circumstances to increase the size of that reservation due to rampant white settlement surrounding the reservation.

The commission again announced that it was not possible to increase the size of the reservation at Turtle Mountain, and that discussion of the matter was pointless. Little Shell and his delegation grew angry at the immovable stance of the commission and declared that unless their claims were met with some compromise, further discussion was indeed useless and they would leave and never consent to any treaty which would not give the tribe a reservation at the Turtle Mountains.

Members of the committee of 32, with Little Shell abstaining, finally agreed to the proposal of the commission, but were unsatisfied. The one-million dollar settlement was viewed as but a meager sum as compared with what the Government has paid for the relinquishment of the Indian title to other tracts, the Indians argued that the Government was, in fact, paying only 10-cents an acre for land, a large portion of which was classed among the best agricultural land in the state, while the government paid other Indians for similar lands at $2.50 per acre (at Fort Totten and Sisseton/Wahpeton). This led to the agreement being derisively named the 'Ten Cent Treaty.' (p. 134) In historical literature, Little Shell was said to have abstained from signing the treaty while other Natives signed the treaty due to the degree of starvation the Turtle Mountain People experienced at the hands of the government (Ferris, 2012). Without signing the treaty, most, if not all of the people, would have died of starvation on the reservation.

As with the government distribution of electricity and freezers and the imposed state of reservation life, the government offered commodities as the answer to the starvation problems of the Native Americans. The commodities were rich foods, high in starch, fat, and calories. This was a diet that the Native American people were not accustomed to and was very non-traditional in nature as well as this style of living something the tribes, over time, never rebounded from. As Fallon & Enig (2000) noted, the hunter gatherers were very healthy, there is no doubt about their health characteristics as long as they lived the life of their ancestors (Fallon & Enig, 2000).

Weston A. Price (1870-1948) was considered the Darwin of Nutrition. Dr. Price was a practicing dentist from the Grand Forks, North Dakota area who later moved to Cleveland Ohio to practice. He became very intrigued in the diets of the non-industrialized primitive after studying their teeth and finding that their perfect teeth, health and physical form were inter-related to their diets (Nienhiser, 2000). Dr. Price stated that in his 36 years of contact with primitive Eskimos and Indians, that he had never seen a single case of malignant disease although it frequently occurred when they became modernized (Fallon & Enig, 2000). Dr. Price also stated that whenever disease was prevalent like that of tuberculosis, it was much lower in a primitive conditions than that of the modernized conditions that were imposed with reservation life (Fallon & Enig, 2000). The diets of the American Indian varied with the terrain and nomadic lifestyles. The whole food was consistent upon the terrain and areas they traveled. Lawrence, Dorian, & Hourie (2006) described the disruption of the communal lifestyle of the Chippewa when they were forced onto reservations as follows:

> Through government forced intervention and after years of suffering and death, the Government used commodities and other resources to try to solve the

> problem of starvation which was created by governmental policies. Up until this point, a hot bowl of metis soup (rubaboo) and a hot piece of bannock (li galette) was always at the ready, along with a good cup of hot tea. Oven baked bannock was a staple bread and eaten fresh, as food did not sit for long in a large Chippewa (Metis) family. Extra wild meat was always shared in the community and borrowing of staple food products was a common practice. Communal lifestyles of the Chippewa (Metis) was disrupted with the reservation lifestyle where hoarding of food was as unnatural as freezers and electricity. (p. 120)

Currently, members of tribes still receive commodities and some use those foods as a way of life and cannot afford other alternatives. As Fallon & Enig, 2000, state, "The Food Distribution Program on Indian Reservations (FDPIR) is used by thousands. Foods loaded with carbohydrates, fat in excess and very little protein are the staple of the FDPIR programs. These programs are the death of all Americans and have led to the accelerated death of the American Indian because they are only two generations away from the old-way of life. Uncle Sam will never admit that the Indians were tall, lean and healthy two-generations ago. The basis of the Indian diet was whole animals "Guts and Grease" and not waffles and skimmed milk. Now, the grain based diets have replaced the primitive diet and the American Indians suffer from overweight, diabetes, and heart disease. Finally, there are still those that remember a life before handouts when diabetes and diseases of civilization were unheard of amongst the American Indian" (Fallon & Enig, 2000).

In spite of the destruction of communities and the conflicts among survivors, kinship, and family relations have continued to succor the generations and provide many Indians with the secure base that has allowed them to develop strategies for dealing with the European invasion. Traditionally and throughout the culture, females have always been the nurturing soul. They have been a form of stability and as reflected in the

literature the ones who place more value on education, resiliency, and the need to adapt. Native American females lead the number of single households on Native American communities (United States Department of Commerce, 2010). In the earlier struggles with European's, Native Americans who rebelled imposed strategies which included adapting to their ways and rejecting their own through the use of violence (Thomas, 2001). The violence was usually in the form of uprisings and staged wars against the Europeans. Throughout it all, the ability to adapt though oppressed and through resiliency has been an attribute of the American Indian.

The American Indian has learned to adapt and overcome demands set forth by the government which posed mandates intended to oppress cultural practices resulting in genocide. Throughout time, Native Americans fought westernization, slavery, the taking of their land, oppression of culture and now fight health issues due to the negative impact of reservation life. Assumptions by Fallon & Enig (2000) is that Uncle Sam (the Government) has tried to destroy the lives of Native Americans and their lifestyles through the imposition of reservation lifestyles. In oppressed people, significant questions of cultural identity and yearning to break away from colonialism exist. They have a unique language developed to understand the diverse emotions and "deferred" dreams that result from living in a borrowed and colonized culture (Friere, 1970).

Perhaps no feature so distinguishes Indians as does the sovereignty possessed by federally recognized tribes and the resulting relationship with the federal and state governments. As a result, Native Americans receive health services administered through the Indian Health Services (IHS), the federal agency responsible for providing health care to Indian people (Gasgow et al., 2004).

American Indian Health and the Need for Prevention Education

Has the health of the Native American taken a turn for the worse, post reservation? Evidence suggests that, yes, health has declined post reservation. Previous studies have provided data on obesity, cardiovascular disease, chronic kidney disease (CKD), and diabetes that provides that evidence. Life expectancy for Indians has grown nearly 10 years since 1972-1973, but still lags behind that of the general population (Gasgow et al., 2004).

Although some American Indians and Alaska Natives now reside in urban locations, those remaining in rural locations, with few exceptions, are the population about which most health-related data is available and for which most health planning is done. This data is comprised of Indians who reside in counties located within or contiguous to reservations or Indian lands of "federally recognized" tribes and is designated the service population of the Indian Health Service. Of the many attributes that tend to distinguish the Indian population, three are most imperative: genetic heritage, ethno-cultural characteristics, and political status (Gasgow et al., 2004). The United States Department of Commerce, (2000) listed the American Indian as the smallest racial minority in the United States. According to Green & Kreuter (1991), the American Indians of today can be described as the poorest, least educated, and most neglected minority group in the United States. Identified problems include a pattern of poverty, social problems, and health disparity unparalleled among major ethnic groups.

Indians, especially the young, die at an accelerated rate when compared to the general population, producing an excess of years of potential life lost (YPLL) compared to non-Indians. Gasgow (2004) defines years of potential life lost as an estimate of the

average years a person would have lived if he or she had not died prematurely. It is, therefore, a measure of premature mortality. While the rate of YPLL of Indians has decreased by more than one-half since 1972-1973, it still exceeds that of all races in the United States by more than 45% (Gasgow et al., 2004).

Health Conditions Effecting Native Americans

Green & Kreuter (1991) stated, "There is a need for prevention education which is the best practice for rural health initiatives and widespread communication to rural people" (p. 375). In addition to improving health status, an inherent aim of many Native American-controlled Health Promotion Disease Prevention (HPDP) efforts is to empower people and transform ethnocentric social structures and social science. According to Green & Kreuter (1991), the key components to health promotion intervention education programs are community capacity building and cultural revitalization. Goodman et al. (1998) defined community capacity as the characteristics of communities that affect their ability to identify, mobilize, and address social and public health problems as a group.

According to Kline & Huff (2007), when putting together prevention education programs, special awareness and sensitivity to cultural diversity must be reflected in the planning, design, and implementation phases of such a complex undertaking. Stein & Rowe (1989) defined culture as "learned, nonrandom, systematic behavior that is transmitted from person to person and from generation to generation" (p. 4). Health education has been defined as "any planned combination of learning experiences designed to predispose, enable, and reinforce voluntary behavior conductive to health in individuals, groups or communities" (Green & Kreuter, 1991, p. 432).

The Joint Committee Report on Health Education Terminology (1991) discussed the need for health promotion and disease prevention (HPDP). The committee defined HPDP as "the aggregate of all purposeful activities designed to improve personal and public health through a combination of strategies, including competent implementation of behavior change strategies, health education, health promotion measures, risk factor detection, health enhancement, and health maintenance" (Kline & Huff, 2007, p. 5). Working with multiple sectors of the community, altering environments, and influencing health-related policies are regarded as hallmarks of desirable health promotion practice, but the scientific basis for these is still far from clear (Oldenburg, Salis, French, & Owen, 1998).

Alcohol Abuse

According to Smith (2000), although causes of higher rates of injuries among Indian people are not well known, low socio-economic status and alcohol abuse are among the most prominent. Motor vehicle deaths, including those of pedestrians, make up approximately one-half of all unintentional injuries. The most significant associated factors are alcohol abuse, speeding, and substandard road conditions. Injury prevention programs are in place in virtually every Indian community, based primarily upon training, education, and special local programs including a pioneering Indian Health Services fellowship program in injury prevention.

According to studies reviewed, the majority of all liver disease among Native Americans is due to alcohol abuse. Chronic liver disease is the fifth leading cause of death for Indians who are more than five times as likely to die from this condition compared to all other races in the United States including whites. It is the second

leading cause of death of Indians 25 to 44 years of age. Presently, almost all cirrhosis is secondary to alcohol abuse. The mortality rate of alcoholism appears to be increasing among Indians since about 1988 compared to a slight decrease for all other United States races (Gasgow et al., 2004).

Lower Health Status of American Indians

The National Academies Press (1996) provided discussion of the reasons for the lower health status of American Indians compared to the general population. These reasons included information regarding genetic predispositions (diabetes), individual risk behaviors (smoking, diet and nutrition, alcohol and drug use, safety knowledge and practices, sexual behavior, and physical activity), and socio-economic and environmental factors (lower levels of income, education, housing, and employment) that are higher than any other groups. Each of these categories is of special concern for Indian people, who as a group experience a greater number and intensity of risk factors when compared to the general population. Compiling information from the United States census sources, Sandefur & Liebler (1997) pointed out that family disruption, reflected in single-parent households (females 15 years of age and older who have never married) and severe poverty are major contributors to lower health status among Indians compared to the general population. According to the 2010 US Census Report, over 40 % of tribal families are living below poverty level, and 1,560 households are headed by single mothers struggling to raise 1,235 children under the age of 18 (United States Department of Commerce, 2010).

Four very serious risk factors for disease and ill health are epidemic among many Indian populations. The first of these, habitual or recreational use of tobacco exceeds

50% among Indian men residing in the Northern Plains, reflected in the high rates of lung cancer. Obesity is pandemic among all age groups. Less-active lifestyles associated with obesity, but perhaps with other effects as well, is a key risk factor among the Indian population in the Strong Heart Study (National Institute of Health, 2001). Finally, alcohol abuse is of epidemic proportions to Indians 25 to 44 years of age and is associated with a number of other leading causes of death, especially injury of all types (Gasgow et al., 2004).

For years, the IHS has maintained special diabetes programs that involve efforts at primary prevention, establishment of model programs for patient management, and standards of care and diabetes registries (Schraer, Lanier, Boyko, Gohdes, & Murphy, 1988). Almost all efforts at primary prevention have to do with education that is focused on increasing physical activity and diet modification (Bogardus, 1995). Research findings regarding medical problems and disease among Native Americans as addressed in this study will show that the overriding result of little or no movement, as associated with hypo-kinetic diseases, jeopardizes the present and future health and wellness of members of the Turtle Mountain Chippewa Tribe.

Suicide

The trend of American Indian Suicide is listed in historical context for the reader to sense a trend and need for intervention. According to Blum, Harmon, Harris, Bergeisen, & Resnick (1992), suicide deaths are more common in Indian communities compared to the general population, especially among the young. A survey of middle school and high school students, found that 17% had made at least one suicide attempt in their lifetime and 11% had made an attempt in the past year. Perhaps the most striking

difference between Indians and the rest of the population in regard to suicide is age-specific mortality rates. According to Wallace, Calhoun, Powell, O'Neil, & James (1996), from 1979 through 1992, males 15 to 34 years of age accounted for 64% of all Indian suicides. Rates peaked during the 15 to 24 years of age group for both males and females, followed by a gradual decline with older age.

A number of reasons have been proposed to explain the high rates of Indian suicide, the most prominent being a loss of traditional culture and exposure to western culture (Wissow, 2000). Indeed, cultural adaptation may be protective; that is, Indian persons at either extreme of acculturation are at greater risk of suicide. According to Van Winkle (1993), suicide is strongly correlated with alcohol use and associated psychiatric conditions. Comparisons of suicide rates between various racial/ethnic groups are of considerable interest. For example, between 2005 and 2009, African American, Asian or Pacific Islander, and Hispanic males all had suicide rates more than half of the rate of 27.61 suicides per 100,000 Indian males (Center for Disease Control and Prevention, 2014).

Indian suicide prevention programs include attempts to improve opportunities for Indian youth to engage in meaningful activities, improve self-esteem, and avoid alcohol use. Community efforts include cultural enrichment, parenting education, job and housing assistance, and recreation (Wissow, 2000). The NYSP/BYAP program offers education in areas of suicide prevention, morale, drug and alcohol prevention, cultural identity, peer mentoring, positive role modeling, career outlook and opportunity, and self-worth in areas that Native American youth are prone to become burdened with throughout their adolescence and adulthood.

Unintentional Death, Homicide and Suicide

Gasgow et al. (2004) explained that among Indians 5 to 24 years of age, the three leading causes of death are unintentional injuries, homicide, and suicide. Among young adults, perhaps the most critical risk factor for death is alcohol abuse; it is a major contributor in four of the five leading causes of death. Up through 45 years of age, overall mortality rates among Indians average about two times those of the general population. As with the general population, as Indians enter middle age, their mortality rates increase largely because of chronic diseases, such as heart disease and cancer. Diabetes becomes the third leading cause of death by 55 years of age at a rate several times higher than for the general population (Gasgow et al., 2004).

Cardiovascular Disease

The most significant cardiovascular diseases among Indians are coronary heart disease, hypertension, and rheumatic heart disease (RHD). Coronary heart disease, formerly thought to be uncommon among American Indians, is now their leading cause of death. With increasing rates of obesity, hyperlipidemia, and less active lifestyle, incidence rates for cardiovascular diseases among Indians will undoubtedly continue to increase for the foreseeable future (Howard et al., 1996).

Until recently, hypertension was also considered to be uncommon among Indians; however, by the mid-1980s, the prevalence of self-reported hypertension among Indians was approximately the same as that for the general population. Interest in hypertension accelerated following the observation that it is related to insulin and obesity and that a synergistic association exists between hypertension and diabetes mellitus in regard to increased risk for end stage renal disease (Howard et al., 1996).

Presently, efforts to increase physical activity and modify diet as the mainstay of efforts directed toward prevention of cardiovascular disease are being implemented to varying degrees in virtually every Indian community (Gasgow et al., 2004). The NYSP/BYAP program identifies the need for physical activity and provides two hours per day. Through experiential learning, the need for daily physical activity should be a staple for health initiatives in preventative education.

Cancer

Cancer, like coronary heart disease, once considered to be uncommon among Indian people, is now their second leading cause of death with prevalence and mortality rates increasing (Burhansstipanov, 2000). Compared to the general population, Indians experience lower cancer survival rates (Haynes & Smedley, 1999). Lung cancer is the primary disease for both men and women and is the leading cause of death for both genders (Gasgow et al., 2004). Death from prostate cancer is the second leading cause of death among Indian males, and cancer of the breast is second among Indian women. Colon cancer is the third most frequent form of cancer for both genders. According to Gasgow et al. (2004), with certain cancers, a possible genetic protective effect is present among some, if not all, Indian populations indicating that Native Americans are genetically protected from some forms of cancer. This may be some positive news concerning the subject of cancer for Native Americans. Interest in cancer prevention and management among Indian populations is accelerating with emphasis on programs for early detection and efforts at improved clinical management (Hampton et al., 2000).

According to Hampton, Maher, & Key (2000), interest in cancer prevention and management among Indian populations is accelerating with emphasis on programs for

early detection and efforts at improved clinical management. An over-arching message through BYAP/NYSP is the need for health promotion and disease prevention education.

Physical Activity

Physical activity has been shown to have a positive effect on many chronic conditions such as diabetes, cardiovascular disease, and chronic kidney disease. Chronic kidney disease (CKD) is the progressive deterioration of renal function, eventually ending in renal failure. The main function is to remove the waste and by-products of energy that the body needs on a daily basis in order to function properly. The wastes derived from metabolism are one of the main functions of the kidneys; the other is to regulate body fluid. This comes in all forms like maintenance of electrolytes and red blood cells (Hawkins, 2011). According to the National Health and Nutrition Examination Survey, the worldwide prevalence of CKD is four to sixteen percent of all adults 18 or older (Center for Disease Control and Prevention, 2004).

Efforts to increase physical activity and modify diet as the mainstay of efforts directed toward prevention of cardiovascular disease are being implemented to varying degrees in virtually every Indian community (Gasgow et al., 2004).

Diabetes and Obesity

The North Dakota Experimental Program to Stimulate Competitive Research (EPSCoR) and the National Science Foundation (NSF) completed an ethnographic study where the family health needs of the Turtle Mountain Band of Chippewa Indians were assessed. The research objectives described how Native American Indians define family health, identify the most significant need in family health from the perspective of

community members, explain how barriers may interfere with family health, and identify resources that promote family health, and share strategies and ideas that may promote family health and health education (Martin et al., 2011). Twenty-one adults were interviewed and all participants identified Type 2 diabetes mellitus as the most significant health concern. All agreed that they were vulnerable with barriers in place in regard to community members acquiring a stronger knowledge base about Type 2 diabetes such as information about what diabetes is, how to prevent it, and how to effectively manage it. All participants acknowledged the need to educate the youth and described the importance of children teaching their parents. One recommendation from this report was to create a long-term, sustainable, family health prevention/promotion program.

Diabetes and obesity are both modifiable risks that have been linked to CKD. Intervention efforts to facilitate weight loss have proven to be effective at preventing a decline in renal function with high-risk groups such as Native Americans. A survey of Nephrologist at the World Congress on Nephrology suggests a link between sedentary lifestyles and the development of risk factors associated with CKD. Mounting evidence shows that physical activity, along with dietary changes and weight loss, has been shown to prevent and delay the onset of many chronic conditions such as cardiovascular disease, diabetes and CKD. The association of the above diseases and CKD development is high in Native Americans. From a research stand point, the overwhelming evidence suggests intervention programs and education programs for Native Americans are crucial to the lifelong health of the Native American (Hawkins, 2011).

In America, the highest prevalence of diabetes mellitus, the overwhelming preponderance of which is Type 2, is found among Indians. The rates continue to increase with younger Indians being identified. Although it is the fourth leading cause of death for Indians, the effect of diabetes is much greater as it is a major risk factor for cardiovascular deaths (Howard et al., 1996). Indians are more than three times as likely to die from diabetes compared to all races in the United States and whites respectively. It is the third leading cause of death for Indians 55 years of age and older. Type 2 diabetes is closely associated with a positive family history, Indian heritage, obesity, and age. The explanation of the epidemic of diabetes among Indians has centered largely on considerations of a population predisposed to the development of diabetes, accentuated through the westernization of society with its closely associated obesity and less-active lifestyle (Knowler, Saad, Pettitt, & Nelson, 1993).

Neel (1962) hypothesized that American Indians existed for thousands of years in "feast or famine" conditions that led to the emergence of a "thrifty gene" that promoted fat storage. With westernization, this formerly protective gene has proven to be detrimental. The thrifty gene promotes storages of fat in genetically predisposed areas for females and males. This allows females or males to utilize fat reserves in the case of famine but would also allow the excess energy to be burned at a slower rate in the case of feast. Although identification of a specific diabetes gene has not yet been achieved, the field of genetic studies is one of the most diligently pursued. Much of the concern about diabetes has to do with its many vascular complications, including end stage renal disease, blindness, amputations of lower extremities, and others. For years the Indian Health Services has maintained special diabetes programs that involve efforts

at primary prevention, establishment of model programs for patient management, and standards of care and diabetes registries (Schraer et al., 1988). Almost all efforts at primary prevention have to do with education that is focused on increasing physical activity and diet modification (Bogardus, 1995). The BYAP/NYSP program contributes an education based curriculum which focuses on a living sports area whereas physical activity is promoted throughout life.

Mental and Physical Health

Gray (2004) conducted a study entitled the *Mental and Physical Health, Nutrition, and Fitness of Northern Plains Indians* which involved 458 Northern Plains Indians from the Spirit Lake, Standing Rock, Fort Berthold, Turtle Mountain, and White Earth Reservations. The study acknowledged that there have been few studies of the effectiveness of nutritional, psychological, and physical activity interventions in preventing and/or treating problems in the American Indian, particularly the Northern Plains Indians. The major health problems identified in American Indians were cardiovascular disease, diabetes, obesity, depression, and physical inactivity. The study objective was to identify and characterize the relationships among mental and physical health, nutrition, and fitness in Northern Plains Indians as well as to establish a foundation for individual and community-based changes in behavior, nutrition, and physical activity to improve health and quality of life in the Northern Plains Indians. This report identified that depression was associated with tobacco use, body composition, perceived exercise to one's peers in both sexes, and with food insecurity.

The study underscored the need to consider multiple health, nutrition, socioeconomic, and cultural factors when designing programs to prevent and treat

depression in Northern Plains Indians (Gray, 2004). Future research opportunities might be to determine nutrient contents of food assistance programs (e.g., commodities, school meals) and local Native foods and compare those with the health benefits of traditional Native foods and identify and evaluate the effectiveness of community-based lifestyle changes in behavior, nutrition, and physical activity to improve health and the quality of life.

Death rates from heart disease are higher among American Indians/Alaskan Natives (AI/AN) than any other groups. Furthermore, cardiovascular disease (CVD) is considered the leading cause of death in American Indians/Alaskan Natives above 45 years of age. The increased rate of heart disease is likely due to the high occurrence of diabetes in AI/AN. To reduce the risk of developing CVD, it is critical to focus not only on the clinical risk factors (hypertension, dyslipidemia) but underlying lifestyle risk factors (smoking, nutrition, and physical activity) as well (Indian Health Service, 2014). Tribal diabetes educator Jessica Ferris (personal communication, February 14, 2014) noted that in February of 2014, out of the Tribal enrollment of 8009, 1,134 members were pre-diabetic and 1,242 were diabetic.

Barriers or obstacles that might interfere with intervention programs in Native American communities are primarily associated with the diversity of the clients to be able to fully achieve the intended assessment, intervention, and/or evaluation objectives (Green & Kreuter, 1991). Those barriers can be demographic as well as the acculturation or assimilation of the client and health care system barriers. Assimilation is a closely associated process with acculturation and is viewed as the social, economic,

and political integration of a cultural group into a mainstream society to which it may have emigrated or otherwise been drawn (Kline & Huff, 2007).

As in many Native communities, for over a century and increasingly during the past two generations, several factors have negatively impacted the health and well-being of Tribal Members on the Turtle Mountain Reservation. Poverty, poor nutrition, suicide, drug and alcohol abuse, poor economic conditions, an increase in high school drop-out rates, and low levels of physical activity associated with loss of cultural practices and foods have combined to create a pandemic of obesity, drug and alcohol dependency problems, high unemployment rates, diabetes, and other hypo-kinetic diseases among our people. These conditions also contribute to the lack of complete wellness of youth and families, as reflected in unacceptably high rates of smoking, substance abuse, violence, delinquency, and suicide. Points that are of reference, in regard to American Indian health, are as follows:

1. The move to the reservation changed the way of movement for this Native American Tribe.
2. It changed the traditional diet of this Native American Tribe.
3. The reservation changed the outlook on life which led to an increased use of tobacco, alcohol, and drugs.
4. Oppression changed the way the Native Americans looked at outside education.

Health Promotion Efforts

The National Youth Sports Program (NYSP) was created in 1968 and has become what people of the Turtle Mountains know presently as the Belcourt Youth

Activities Program (BYAP). The NYSP program was founded to serve as an intervention program to increase the physical activity and wellness education of youth. In 1968, representatives of the National Collegiate Athletic Association (NCAA) and the President's Council on Physical Fitness and Sports piloted the National Youth Sports Program (NYSP) concept during the summer at two university athletics facilities. On March 17, 1969, the White House announced that the federal government was committing $3 million to establish a sports program for economically disadvantaged youth, and NYSP was born. The NYSP received a federal grant from the U.S. Department of Health and Human Services, as well as support from the U.S. Department of Agriculture and the NCAA. The NYSP distributed sub-grants to selected institutions of higher education that provided qualified personnel, facilities and services necessary to conduct NYSP on their campuses. Each program provided youth with academic instruction, skills training and competition in a variety of sport activities designed to improve physical fitness and health habits, and exposure to educational and career opportunities (National Youth Sports Program, 2006). The NYSP program is no longer funded by U.S. federal government and relies solely on individual communities to keep the vision and efforts alive. The NYSP/BYAP program in the Turtle Mountains continues those efforts through private and organizational solicitations for yearly operational management. The program is run for four weeks each summer in June, Monday through Friday for five hours per day.

Stake (2010) completed a meta-analysis study in a metropolis, using a National Youth Sports Program whose results showed that, at the National level, the National Youth Sports Program was a successful health prevention program and that a similar

program may be successful in the Turtle Mountain reservation area. This study used a 72-item survey to learn how the NYSP youth, ages 10-15, perceived the five-week experience. The response categories included a 3-point Likert scale, ranging from "high" through "moderate" to "low." Results were positive to support the use of the National Youth Sports Program as a prevention education program. In North Dakota, the only two cities to host the National Youth Sports Program were Fargo and Turtle Mountain. Neither city is considered a metropolis but the results are still very positive and can be attributed to hosting a National Youth Sports Program. The following summary of the National Youth Sports Program (NYSP) at a metropolis campus was found:

Pre-specified Characteristics	**Need**
Youth and Children	
Quality of experience for children	High
Knowledge Gained by Youth	
Sports	Moderate
Personal health	High
Campus/Community	Moderate
Staff	
Competence for tasks assigned	High
Dedication, loyalty of staff	High
Quality of Staff-student interaction	High
Commitment to Structure, discipline	Moderate
Management	
Coordination of activities	High
Compliance with NYSP regulations	High
Responsiveness to parents, sponsors	High
Coping with emergencies	High
Staff development, supervision	Moderate
Involving staff in management	Low
Attention to kids with special needs	Moderate
Dealing with supplemental costs	Moderate
Bookkeeping	Moderate

(Stake, 2010, p. 7)

Summary

This literature review explored areas relating to a historical perspective of Native Americans, current health and wellness of Native American, and preventative education on the Turtle Mountain Chippewa Reservation. The literature and research in chapter II informed findings regarding information that unveiled a host of common characteristics and traits of the American Indian as a result of living modernized. The literature also demonstrates un-intended harm the government inflicted upon Native Americans as a result of living on reservations. That harm was in the form of diabetes, overweight, obesity, suicide, un-intentional death, cardiovascular disease, cancer, and alcohol and tobacco abuse. Research from the NIH, DHHS, USDA and CDC suggests that physical activity, modified diets and prevention education should be mainstays in the battle against the ill-health plaguing the American Indian. Through an experiential learning framework, the researcher targeted a health program on the Turtle Mountains and conducted a study measuring the positive impact and benefits that program had on past participants.

Chapter III will provide information regarding the design, description of subjects, the data collection, survey instrument and the statistical treatment of the data in this study. Chapter IV presents an overview of the statistical procedures and a description of findings for each of the question items and variables. Finally, Chapter V describes the conclusions, implication of the findings, discussion, and recommendations for further study.

CHAPTER III

DESIGN OF THE STUDY

The purpose of this study was to explore the impact and benefits on participants of a health education program and to identify if differences exist between females and males concerning the value placed on exercise, nutrition, and education. Identified causes for poor health, obesity concerns and obstacles to improving overall wellness for Native Americans living on the Turtle Mountain Chippewa Reservation in North Central North Dakota prompted this research.

The conceptual framework 'experiential learning" has four elements (concrete experience, reflective observation, abstract conceptualization, and active experimentation) which were used for the experience-based approach to this study (Smith, 2010). Using the implication of divergent style associated with David A. Kolb's model of experiential learning, a survey was developed. This style was best illustrated by Kolb's diagram created in 1984 which listed four styles, the converger, the diverger, the assimilator, and the accommodator which is closely assimilated to the four elements of his design (Smith, 2010). Kolb's diverging style which uses the elements concrete experience and reflective observation guided the research and null-hypotheses formed by this style of research (Tennant, 1997). Andresen, Boud, & Cohen (2000) provided a list for experience based learning studies which acknowledge that goals of the experience should be meaningful to the researcher; personally engaging, and the experiential reflections ongoing. The whole person including intellect, senses, feelings

and personalities should be involved, and prior learning recognized as part of the process. The research questions and null-hypotheses were then created using the general question, "Does a health and wellness program have benefit and impact for participants at Turtle Mountain?".

Johnson & Christenson (2008) outline the characteristics of quantitative research as data that is based upon precise measurement using structured and validated data collection instruments, data analysis that aims to look at statistical relationships and that common aims of research are to explain and predict (Johnson & Christenson, 2008). Reliability, using quantitative methods involves choosing measures that demonstrate 'consistency and replicability over time, over instruments and over groups of respondents' (Cohen, Manion & Morrison, 2000). Quantitative methodology which derives from this, aims to improve validity by "carefully sampling, appropriate instrumentation and appropriate statistical treatments of data" (Cohen, Manion & Morrison, 2000). Kumar (2005) describes the quantitative methodological approach as being a structured approach, in which all aspects of the research process are decided upon before data collection begins.

Coolican (2004) states, "Researchers using a quantitative methodological approach usually (but not always) concentrate on the confirmatory stages of the research cycle, that is, the formulation of a hypothesis and the collection of numerical data to test this hypothesis. Thus, quantitative methodology aims to measure, quantify or find the extent of a phenomenon, as opposed to qualitative methodology, which is usually more concerned with describing experiences, emphasizing meaning and exploring the nature of an issue" (Coolican, 2004).

The idea that knowledge comes from experience is known as empiricism (Atkinson et al., 1996) and according to this way of thinking, only the knowledge that we obtain through our senses can be said to be true (Albon & Mukherji, 2009). The word 'empirical', is derived from the idea that a statement can be proved or disproved by observation, experiment or experience (Johnson & Christensen, 2008).

The theoretical framework used in conceptualizing the research questions was Kolb's (1984) experiential learning elements aligned with characteristics associated with the style of the person conducting the research. From that point, the study used quantitative research methods beginning with the creation of a survey, collecting data and testing that data using statistical measures to determine results of the reseach questions and null hypotheses. The dependent variables, the participation in health education programs result in positive impact and benefits for participants in the Turtle Mountains and value and comparisons between males and females in health education programs were measured using independent variables gender, health factors and wellness behaviors.

Research Questions

The general research questions were formulated to elicit an anticipated response that the NYSP/BYAP had a positive impact on past participants and that females would place more emphasis on attaining health education than their male counterparts implied through findings in the review of the literature.

The following research questions were used to guide this study:

1. How does experiential learning received through the Health Educational Program on the Turtle Mountain Indian Reservation impact the health and wellness of participants?
2. Do females place more value on exercise, nutrition and education than males on the reservation?

Null Hypotheses

The following hypotheses were used in this study:

1. Health promotion wellness programs do not have impact and benefit in Native American communities.
2. Females will respond that the health education program did not have a more significant impact and benefit reported than their male counterparts.

Data Collection

Upon approval from the dissertation committee at the topic proposal meeting, the application to begin the study was submitted to the Institutional Review Board (IRB). After receipt of approval for the study, the data collection process began. Timelines were established and data was gathered from past participants in a health prevention education intervention program located on the Turtle Mountain Chippewa Reservation.

The survey instrument (Appendix A) was created using educational components of the curriculum from NYSP/BYAP observations and experiences of the past participants. Records kept of the BYAP/NYSP were reviewed and past participants now aged 18 and above were selected for inclusion in the study. Past participants meeting that age criteria totaled 200. One hundred thirty five participants were contacted through direct emails using the Turtle Mountain Community School listserv (Appendix

B). The others were contacted through the social network Facebook (Appendix C). Both methods of contact included the same research study information. The inclusion of Facebook as a method of distribution was in light of research, which indicated that Facebook is now a valid educational tool used by many (Lipsett, 2008).

The message in the email and Facebook stated the need for the study and outcomes that would be accomplished by collecting the survey data. Participants were assured confidentiality and anonymity in the reporting of the results in a consent form attached. This was done in accordance with IRB requirements and the treatment of human subjects as addressed in the research where surveyed participants are to remain anonymous and provided protection against vulnerability during the survey process and as results are shared (Kelman, 1977).

A link to access the 25-question survey administered through the University of North Dakota Qualtrics software was provided in the content of the message as well. Of the 200 participants who were sent the email message, 52 responded and completed the survey for a total of 26% respondents. Participants were given a time frame of five calendar days in which to respond. Those that did not respond the first time were not contacted a second time. Once the survey was recorded, the process was complete for the participants.

The procedure used in this study was to create a survey instrument, distribute the survey through UND Qualtrics, and download the returned data into the SPSS statistics software for analysis.

Description of Subjects

The subjects studied in this research were ages 18 and above, and all were past participants of a summer four-week health education intervention prevention program held on the Turtle Mountain Chippewa Reservation within the past ten years. There were 17 males, 29 females, and six who didn't respond to the gender question. A total of 52 made up the sample of BYAP/NYSP participants for this study. Forty three of the 52 had a high school diploma or higher. Of all the respondents, 39 were American Indian or Alaskan Native, 7 were Black African/American, 1 was multi-racial and 3 were white or Caucasian and 2 did not report.

Instrumentation

The survey instrument (Appendix A) was created using educational components of the curriculum from NYSP/BYAP, and observations, and experiences of the participants being studied which helped formulate the questions on the survey. The survey was developed on the University of North Dakota Qualtrics design software.

In the initial survey, 17 questions were constructed. The survey instrument was formulated using two experiential learning areas, concrete experience and reflective observation. Through observation and experiences with the participants at BYAP/NYSP, the initial seventeen questions were developed. Those questions were than tested through a pilot for internal consistency using Crohnbach's alpha. Internal consistency refers to reliability or agreement across a number of measures of the same construct (Warner, 2013). However, the results of that pilot study were never used. Later, the dissertation committee requested expansion of those initial questions to include additional construct and variable questions. As a result of the above

recommendations, eight additional questions were added for a total of 25-questions. Nineteen questions had reference to demographics while six were used solely for purposes encompassing exercise, nutrition, and education.

Once the survey instrument was complete, it was downloaded into Statistical Package for the Social Sciences (SPSS) software and analyzed to determine correlations and validity. The Cronbach's Alpha was used to measure internal consistency and reliability coefficients while Cohen's D measured a popular size effect associated with a T-test (Warner, 2013). Those results provided evidence to support the groupings of questions for internal consistency in determining if the survey would be consistent and give valid significant findings. By finding internal consistency of construct questions from those who responded to the survey, it was determined that the survey instrument was internally consistent. For validity purposes, construct questions should be in at least moderate measurement reliability at 0.70. The education construct and major focus for the researcher was 0.72.

Data Analysis

Analysis of the data was completed using the T-test for statistical significance. The T-test for statistical significance was computed from SPSS to determine a statistical hypothesis. The suitable statistics used in analyzing the data for this study were T-test, frequency, and percentage distribution. A frequency distribution is a tabular arrangement of score values showing the frequency with which each value occurs. A frequency distribution summarizes the data collected on a particular variable by arranging the score values in order of size and magnitude and indicating how often each is obtained (Shavelson, 1981, p. 74). Percentages give an indication of what percent of

the total group that frequency score is. The T-test for dependent samples is used to examine data from within subject designs when two observations are made on each subject or when one observation is made on each of the two members of a matched pair. The purpose of the T-test is to help decide whether the difference between two sample means may be due to chance or to a true difference between population means (Shavelson, 1981).

In this study, a T-test was used to measure the standard deviation of means in regards to the value placed on education between females and their male counterparts. The T-test was used to determine if there was evidence to support the second hypothesis question, "Do females place more value on exercise, nutrition and education than males on the reservation?" When using the independent T-test samples, the general emphasis was on gender-based statistical measures concerning health education, physical activity, and nutrition education. The impact of prevention education programs on adult males and females in a Native American community were tested to examine retention of health education knowledge taught to them as children. This data was represented by questions dealing with exercise, nutrition and education. For example, the research from the literature review indicated that the high school graduation rate for Turtle Mountain Community Schools was 69%. The results indicate that 82% of the BYAP/NYSP participant group graduated which is 14% higher than the average at Turtle Mountain high school. The research indicates that the lower health status of American Indians is attributed to, among other things, poor nutrition. The results indicate that 80.6% of participants of the BYAP/NYSP group appropriate nutritional guidelines to their lives at least once per month. Exercise is a primary factor in preventable diseases among

American Indians. The results indicate that 76.9% of respondents or BYAP/NYSP group indicated they apply exercise to their lives at least once per month which can lead to a healthier lifestyle and can help prevent disease.

Tables were used to present descriptive statistics, frequency and percentage distributions. Narrative reporting of data was accomplished through the use of paragraph summaries. The analysis of the data consisted of measuring the consistency of answers among variables presented through the survey. A measure of internal consistency, Cronbach's Alpha, was used to measure the internal consistency among constructs which indicated the relationship of questions within a construct. For validity purposes, construct questions should be in at least moderate measurement reliability at 0.70. The education construct and major focus was 0.72. The nutrition construct was 0.68 and the physical activity construct was 0.50.

Survey results were reported through the quantitative approach. The variables, their relationship, the participants, and site for research were identified (Creswell, 2008). This type of research is an inquiry approach useful for describing trends and explaining the relationship among variables found in the literature. Demographic questions were used to give background information about participants of the BYAP/NYSP program. Additional questions focused on the current frequency of healthy and unhealthy behaviors of participants and impact and benefits of education provided on current behaviors. Statistical analysis of responses included Cronbach's Alpha, Cohen's D, and T-test.

To conduct this inquiry, questions were narrowed and a survey instrument was developed to gather data to answer the questions. Descriptive statistics, frequency,

percentage distribution and a T-test were used to analyze responses from the survey instrument. The results of the analysis of the data were interpreted using prior predictions and research studies.

Summary

Chapter III presented information regarding the theoretical framework for design of the study, data collection, description of subjects, survey instrument and methods of analysis. Chapter IV presents an overview of statistical procedures and a description of findings for each of the question items and variables. Finally, Chapter V presents conclusions, implication of the findings, discussion, and recommendations for further study.

CHAPTER IV

ANALYSIS OF DATA

This chapter presents the results of the study as gleaned from the findings of the research. The first part or Table 1 is a description of the program participants of the National Youth Sports Program/Belcourt Youth Activities Program beginning with the presentation of a table with a demographic description of the subjects using frequencies and percentages. The second part, Table 2, identifies internal consistency among constructs dealing with education, nutrition and physical activity. The third part or Table 3 is a description of results from questions in the education construct. Table 4 presents data from the independent T-test to identify the significance in values of exercise, nutrition and education between males and females. The testable hypothesis is stated in the null form. Alpha was set at the .05 level of significance for all tests. The last part or Table 5 is organized and presented as descriptive statistics measuring health variables of past participants. Included with the data results is a narrative providing the researcher's understanding and explanations.

Demographic Data/Results

Table 1 presents demographic information for female and male respondents based upon age, years participated in the intervention program BYAP/NYSP, ethnicity, and the highest level of education received. Demographic variables were considered meaningful information that permitted a profile of the group to emerge as represented through the findings.

The make-up of the demographics of the BYAP/NYSP sample group was diverse with 75% being American Indian or Alaskan Native, over 55% were female, 82% had a high school diploma or higher and 100 % were between the ages of 18-29.

The information about years of participation sheds light on the perceived value of the program from participants. If the participants valued the program enough to continue, they participated for multiple years. Each respondent could choose more than one year of involvement as an option through the survey. When a respondent came back to the program more than once or multiple times, it could be a direct result of interest and a need for the program via physical fitness, activity, health reasons, well-being, morale and the education received. The NYSP/BYAP program is a free program open for participants to enroll and re-enroll numerous times. There are no factors or investments that hold students or guardians accountable to the program other than having fun, receiving education and activity for four hours per day. For those reasons, an assumption can be made that participants that enroll or re-enroll in the program are there because the program is interesting, fun and provides them with daily activity. The demographic variables inform the study by identifying ethnic groups and their relationship to other populations and ethnicities, indicates correlation of participants to the level of education attained and shows how females and males may respond different regarding impact and benefit of the health education program. It also informs the study by forming a relationships of participation in BYAP/NYSP and the level of education received. Lastly, the demographic variables help inform the study through gender identification which may show a gender receiving more impact and benefit through health education.

Table 1. Demographic Variables.

Demographic Variables	Overall Sample (n = 52) Total Respondents	% of Total Respondents
Gender		
Male	17	32.7
Female	29	55.8
Missing	6	11.5
Year Participated		
2004	8	15.4
2005	7	13.5
2006	10	19.2
2007	7	13.5
2008	9	17.3
2009	9	17.3
2010	12	23.1
2011	10	19.2
2012	12	23.1
2013	11	21.2
Age Range		
18-21	17	32.7
22-25	16	30.8
26-29	14	26.9
Missing	5	9.6
Ethnicity		
Turtle Mountain Chippewa	37	71.2
Black/African American	7	13.5
Other-American Indian or Alaskan Native	2	3.8
Multi-Racial	1	1.9
White/Caucasian	3	5.8
Missing	2	3.8
Highest Level of Education		
Grades 1-8	3	5.8%
Grades 9-11	1	1.9%
High School Graduate	8	15.4%
Associates Degree	21	40.4%
Bachelor's Degree	7	13.5%
Master's Degree	6	11.5%
Vocational Certificate	1	1.9%
Other	1	1.9%
Missing	4	7.7%

Responses for the age category were 17 (32.7%) between the ages of 18 and 21, 16 (30.8%) were between the ages of 22 to 25, 14 (26.9%) were between the ages of 26

and 29, and 5 (9.6%) did not report. Responses indicate 100% are between the ages of 18 and 29.

Of the 50 participants who responded to the Ethnicity category, 37 (71.2%) were Turtle Mountain Chippewa, seven (13.5%) were Black/African American, 2 (3.8%) were Other-American Indian or Alaskan Native, 1 (1.9 %) was Multi-racial, three (5.8%) were Caucasian, and 2 (3.8%) did not report.

Forty seven participants responded to the question regarding highest level of education received. Three (5.8%) indicated their highest level of education was between the grades of 1-8, one (1.9%) indicated grades 9-11, eight (15.4%) indicated they completed high school, 21 (40.4 %) indicated they attained an associate's degree, seven (13.5%) indicated they attained a bachelor's degree, six (11.5%) indicated they attained a master's degree, one (1.9%) indicated attainment of a vocational degree, one (1.9%) indicated other, and four (7.7%) did not report. Responses indicate that 82% have a high school diploma or higher.

Research from the literature review indicated that the graduation rate for Turtle Mountain Community Schools was 69% (North Dakota Department of Public Instruction, 2013). The results indicate that 82% of the BYAP/NYSP participant group graduated which is 14% higher than the average student at Turtle Mountain. On a national level, 17% of American Indians begin college. The results of this study indicate that 65.4% of respondents had an associate's degree or higher which is 48.4% higher than the national average. Because the BYAP/NYSP sample group had a higher graduation rate than those at Turtle Mountain and because the sample group had a higher

college graduation rate than the national average, this may be attributable to the NYSP/BYAP promotion of career outlook and opportunity educational programming.

Internal consistency among constructs describes the descriptive statistics between answers per construct groups in questions dealing with exercise, nutrition, and education. As Warner (2013) states, "Many types of evidence may be required to establish that a measure has strong construct validity—that is, that it really measures what the test developer says it measures, and it predicts the behaviors and group memberships that it should be able to predict" (p. 942). Warner further described construct validity as all forms of validity including content and face validity that are measures of the content of survey items: measurement of all survey items representing the theoretical dimensions of the content are content or construct validity measurements.

Table 2 presents the three constructs (physical activity, nutrition and education), their reliability measures, and the correlation between each. This value indicates both conceptual and statistical independence of the constructs measured (Warner, 2013).

Table 2. Measurement of Internal Consistency.
Correlation of Subscale Constructs and Measures of Internal Consistency

Construct No.	Subscale Constructs	C1	C2	A
C1	Exercise: Q18, Q19			.42
C2	Nutrition: Q20, Q21	.42		.72
C3	Education: Q22, Q23, Q24, Q25	.42	.72	1.0

Table 2 indicates that each construct group has valid internal consistency and that the correlation of both questions in subscale Construct 1, dealing with exercise, was consistent among respondents answering those sets of questions. The correlation of

internal consistency for Questions 20 and 21 in Construct 2, dealing with nutrition also indicates consistency among respondents answering that group of questions.

Table 3. Education Construct

Scale used (Never=1, Less than once a month=2, Once per month=3, 2-3 times per month=4, Once Per Week=5, 2-3 times per week=6, Daily =7).

Education	Never	Less than once a month	Once per month	2-3 times per month	Once per week	2-3 times per week	Daily
Q22. The Health and Wellness education provided through NYSP/BYAP has helped me to: Engage in physical activity on a regular basis.	11.5%	3.8%	0%	3.8%	7.7%	30.8%	30.8%
Q23. Follow appropriate nutrition guidelines on a regular basis (5-7 nutritionally balanced meals per week).	7.7%	3.8%	11.5%	1.9%	3.8%	36.5%	23.1%
Q24. Have a more positive outlook regarding career opportunity?	3.8%	13.5%	7.7%	3.8%	3.8%	17.3%	38.5%
Q25. Has improved my morale?	11.5%	9.6%	1.9%	1.9%	5.8%	13.5%	44.2%

Table 3 presents response rates from past participants concerning the education received through NYSP/BYAP. There were eight questions listed under three constructs—exercise, nutrition, and education. Construct 3, Education consisted of four survey questions and was the construct most related to the Research Question 1. After

further examination of questions 18-21, the findings showed no significance to the primary Research Question 1 concerning Education. Results for Q22 indicated that 11.5% of respondents reported that they never linked the engagement of physical activity to the promotion of physical activity from NYSP/BYAP, 3.8 % reported that they linked promotion to physical activity by engaging in physical activity less than once per month, 0.0% stated they engaged in physical activity once per month, 3.8 % stated they engaged in physical activity two to three times per month, 7.7% reported a link once per week, 30.8% reported a link to their physical activity two to three times a week, and 30.8% reported a link to their physical activity through NYSP/BYAP on a daily basis. Six respondents (11.6%) did not respond to Q22. As research suggests, efforts to increase physical activity should be the mainstay of all prevention education programs due to the inherent risks of cardiovascular disease, kidney disease, obesity, overweight and diabetes all which contribute to the overall ill health of the American Indian (Gasgow et al., 2004). Physical activity is a primary factor in preventable diseases among American Indians. The results indicate that 76.9% of respondents or BYAP/NYSP group indicated they apply physical activity to their lives at least once per month which can lead to a healthier lifestyle and can help prevent disease.

Results for Q23 indicates that 7.7% of all respondents never linked the appropriated guidelines for nutrition with NYSP/BYAP, 3.8 % linked the appropriate guidelines for nutrition less than once per month, 11.5% linked the guidelines for nutrition once a month, 1.9% reported a link two to three times per month, 3.8 % reported a link once a week, 36.5% reported a link two to three times per week, and 23.1% reported a link daily. Six respondents (11.6%) did not respond to Q23. The

research indicates that the lower health status of American Indians is attributed to, among other things, poor nutrition. The results indicate 80.6% of participants of the BYAP/NYSP group link using appropriate nutritional guidelines to their lives at least once per month which is supported by researcher Bogardus (1995) who states, "Diet modification and education plans are a primary focus for nutrition efforts."

Results for Q24 indicates that 3.8% of respondents report they never linked having a more positive outlook on career opportunity from the promotion of career outlook and opportunity through BYAP/NYSP, 13.5% reported a link to career outlook and the promotion of career outlook and opportunity from NYSP/BYAP less than once per month, 7.7% reported a link once a month, 3.8% reported a link two to three times per month, 3.8% reported a link once per week, 17.3% reported a link two to three times per week, and 38.5% reported a link to the positive promotion of career outlook and opportunity from the education in BYAP/NYSP on a daily basis. Six respondents (11.6%) did not respond to Q24. As indicated in research only 17% of American Indians begin college and only 4% finish (Northwest Area Foundation, 2014). Results from the BYAP/NYSP sample group indicate that 84.6% link a more positive outlook with a career. This may be a reason why 65.4% of respondents have an associate's degree or higher.

Results for Q25 indicates 11.5% of respondents report that they never linked an improved morale with the participation in the NYSP/BYAP program, 9.6% reported an improved morale less than once per month, 1.9% reported an improved morale once a month, 1.9 % reported an improved morale two to three times per month, 5.8% reported an improved morale once per week, 13.5 % reported an improved morale two to three

times per week, and 44.2% reported an improved morale daily as a participant of the NYSP/BYAP program. Six respondents (11.6%) did not respond to Q25. Review of the literature indicates 17% of all middle school and high school students made at least one attempt of suicide. Results from the BYAP/NYSP group indicate that 76.9% linked an improved morale while in attendance at BYAP/NYSP. A person with high morale is less likely to attempt suicide (Wissow, 2000).

Table 4 results presents a standard deviation of d =-.16 in the exercise category for females which corresponds to .16 of a standard deviation less than the mean for the male population. In the question on value of nutrition, d = .15 corresponds to the female mean for the value placed on nutrition is one-tenth of a standard deviation higher than the mean of the male population. The final result indicates the value of education for the females had an effect size of .31 or three-tenths of a standard deviation higher than the mean value of education for the male population. In this case, there was no statistical significance. Results indicate females did place more value on nutrition and exercise compared to males; however, the p value of .09 and .11 for a two-tailed T-test indicate this is not statistically significant. Alpha was set at the .05 level of significance for all tests. The null hypothesis is therefore accepted. The responses of males and females indicated that females placed more value in exercise and nutrition compared to males. However, this was not statistically significant as measured by the data analysis. In the education category, there was no supporting data to link either gender placing more value.

Table 4. Comparison between Males and Females and Value Placed on Education.

Subscale Constructs	Male *M*	Female *F*	*p*	*D*
Exercise	5.7	5.0	.11	-.16
Nutrition	4.5	5.5	.09	.15
Education	5.0	5.2	.78	.31

*$p < .05$

Table 5 summarizes the results of other variable questions dealing with general health promotion and wellness education topics. The specific items and questions on the survey were as follows: describe your weight; what are you doing about your current weight; what is your primary reason for doing something about your weight; how much do you typically sleep; have you ever been diagnosed with diabetes; what is your cholesterol level; cholesterol other responses; how would you describe your overall health and wellness; what are the challenges with implementing wellness behaviors; my blood pressure typically is; a culture of wellness refers to; choose an option that best fits your alcohol use; and, choose an option that best fits your tobacco use.

As the research indicates, many factors contribute to the ill health status of American Indians. The questions on table 5 are interrelated with findings in the research enabling the comparison and contrast with the BYAP/NYSP group.

Table 5. Health Variables.

Health Variables	Overall Sample Count (n = 52) Total Respondents	% of Total Respondents
Describe Weight		
Underweight	9	17.3
Healthy Weight	29	55.8
Overweight	10	19.2
Missing	4	7.7
What are you doing about your current weight		
Not Trying Anything	7	13.5
Maintaining Weight	20	38.5
Losing Weight	20	38.5
Gaining Weight	1	1.8
Missing	4	7.7
What is your primary reason for doing something about your weight?		
Recommended by a health care provider	5	9.6
Manage a chronic condition	11	21.2
Prevent a chronic condition	10	19.2
Increase my energy levels	9	17.3
Look Better	13	25.0
Missing	4	7.7
I typically sleep?		
6 hours or less	16	30.8
7 hours	16	30.8
8 hours	13	25.0
More than 8 hours	3	5.7
Missing	4	7.7
Have you ever been diagnosed with Diabetes		
Within the past year	0	0.0
Within the past five years	0	0.0
Within the past ten years	0	0.0
Does not apply	28	53.8
Missing	24	46.2
My Cholesterol is?		
Normal	34	65.4
High (240/m/dl)	2	3.8
Normal with medication	7	13.5
Type other response	5	9.6
Missing	4	7.7
Cholesterol other Responses?		
Responses	51	98.1
I have never had it checked	1	1.9

Table 5. cont.

Health Variables	Overall Sample Count (n = 52) Total Respondents	% of Total Respondents
How would you describe your overall health and wellness?		
Excellent	14	26.9
Good	26	50.0
Fair	8	15.4
Poor	0	0.0
Missing	4	7.7
Challenges with implementing wellness behavior		
Difficulty engaging in Physical Activity	0	0.0
Trouble with sleep	0	0.0
Difficulty eating healthy	0	0.0
Difficulty maintaining a healthy weight	0	0.0
Stress Management	0	0.0
My blood pressure typically is?		
Low	2	3.8
Normal	28	53.8
Normal and under high (Defined as controlled with the use of medication)	5	9.6
Unknown	9	17.4
High	4	7.7
Missing	4	7.7
A culture of wellness refers to		
Text	13	25.0
Please choose the option that best describes your alcohol use?		
Never	5	9.6
Less than once per month	11	21.2
Once a month	7	13.5
Two to three times a month	8	15.4
Once per week	0	0.0
Two to three times per week	0	0.0
Daily	1	1.8
Missing	20	38.6
Please choose the option that best describes your tobacco use?		

Table 5 cont.

	Overall Sample Count (n = 52) Total Respondents	% of Total Respondents
Never	23	44.2
Less than once per month	4	7.7
Once a month	0	0.0
Two to three times a month	2	3.8
Once per week	0	0.0
Two to three times per week	0	0.0
Daily	3	5.8
Missing	20	38.5

The health variables discussed above represent weight, current weight, maintenance of weight, sleep, diabetes, cholesterol, overall health and wellness, blood pressure, tobacco use, and alcohol use of those respondents. Results detailed on Table 5 indicate that 55.8% of the respondents identified that their weight as healthy, 19.2% indicated they are overweight, while 17.3 % indicated they are underweight and 7.7% did not report. Thirty-eight point five (38.5%) percent of the respondents indicated they are maintaining their current weight and 38.5% indicated they are trying to lose weight, while 13.5% indicated they are not doing anything about their current weight, 1.8 % reported gaining weight and 7.7 % did not report. Twenty-five percent (25 %) of the participants that answered the weight maintenance question revealed that they are most interested in looking better while 21.2% indicated they want to manage their weight so that it does not become a chronic issue later in life. Additionally, 19.2% indicated they want to prevent a chronic issue, while 17.3% indicated they want to increase their energy, 9.6 % were recommended by a health care provider and 7.7 % did not report. The findings indicate that past participants have control of their health and know the health benefits of weight management. The health variable findings indicate that

BYAP/NYSP participants have knowledge concerning their weight, what is a healthy weight and what body weight is considered healthy. The research indicates that a lack of knowledge contributes to the American Indian suffering from diseases associated with being overweight like diabetes, cardiovascular disease, chronic kidney disease which are all factors for the lower health status of American Indians.

Thirty point eight percent (30.8%) of participants reported that they sleep six or fewer hours per day, 30.8% sleep seven hours per day, 25% reported sleeping eight hours per day, 5.7% reported sleeping more than eight hours per day, and 7.7% did not report. Almost half of the participants did not answer the diabetes question (46.2%); however, 53.8% reported that diabetes did not apply to them. Sixty-five point four percent (65.4%) of the cholesterol level question indicated their cholesterol falls within the normal range, 13.5% indicated their cholesterol falls within the normal range with medication, 3.8% revealed high cholesterol levels, 9.6% had other listed and 7.7% did not report. A significant majority of all respondents, 98.1%, wrote text in the cholesterol levels question box and one respondent (1.9%) indicated they never had it checked. Results indicated BYAP/NYSP participant group have knowledge of health variables that attribute to the ill health of the American Indian. The positive indicators can be attributed to more education from NYSP/BYAP participant group on health variables compared to the average American Indian.

For the question regarding overall health and wellness, 26.9% of respondents indicated their overall health and wellness was excellent, 50% indicated overall health and wellness as good, 0% responded to their health being poor, 15.4% indicated they were in fair shape and 7.7% did not report. Results indicate that 92.3% of BYAP/NYSP

participant group's overall health was fair or better. An assumption can be made that past participation in NYSP/BYAP attributed to more knowledge and a health conscious person compared to the average American Indian.

There were no responses to the question regarding the challenges of implementing a wellness behavior program. Respondents may not have understood the question and therefore did not submit an answer.

When discussing their blood pressure, 53.8% indicated normal blood pressure, 9.6% indicated normal with medication, 17.4% were unknown, 7.7% indicated high blood pressure, and 3.8% indicated low blood pressure and 7.7% did not report.

There were a variety of statements written in the fill in the blank area regarding the question: "A culture of wellness refers to?" 25% of total respondents answered this question. Responses included education, resources, healthy eating establishments, stronger leadership, more scheduled activities, group activities, and family fun days for the community as characteristics of a culture of wellness. Participants who answered this question indicated they expect more education and programming to occur annually as well as more activities for families to become available. Programming and resources that dealt with nutrition and exercise components were a recurring theme indicated by responses of those surveyed. They also responded that the Byron Dorgan Youth Wellness Center "Dome" was one of the best things for the community, but more needs to be done in educating community members on diet and exercise. Another comment indicated that "more money needs to be put in similar health areas by the tribal leadership".

The last two questions on the survey, questions 16 and 17, dealt with alcohol and tobacco use by exploring whether NYSP/BYAP education helped participants improve understanding about alcohol consumption and tobacco use. A question was asked about their current use of both alcohol and tobacco. For alcohol, the use question indicated that 21.2% of respondents used alcohol once or less per month, 15.4% indicated they used alcohol two to three times per month, 13.5% indicated they used alcohol once per month, 9.6% indicated they never used, 1.8% indicated they used alcohol daily, 0% indicated they used alcohol once per week, and 0% used alcohol two to three times per week. 38.6% (Twenty) respondents did not answer. Responses to the tobacco use question indicated that 44.2% never use tobacco, 7.7% use tobacco less than once per month, 3.8% use tobacco two to three times per month, 5.8% use tobacco daily, 0% used tobacco once a month, 0% used tobacco once per week, and 0% used tobacco 2-3 times per week. 38.5% (Twenty) respondents did not answer the question. The research indicates that 2 of the 4 very serious risk factors that are at the epidemic level among American Indians are alcohol and tobacco use which leads to liver disease, cancer, and heart disease. The results from respondents indicate that they are very knowledgeable about alcohol and tobacco use and the implications of that use. Knowledge that is retained and used for positive benefit is the goal of all prevention education programs. An assumption can be made that the majority of BYAP/NYSP group are knowledgeable of tobacco and alcohol contributing to preventing overuse of those products, therefore accomplishing a major goal of a prevention education program.

Summary

Experiential learning framed the study "Exploring the impact and benefits of a health and wellness program at Turtle Mountain." The BYAP/NYSP health and wellness program was chosen because of the experiential learning curriculum implemented over the past 10 years and the relationship forged with the youth of the Turtle Mountain reservation. Using the diverging style of concrete experience and reflective observations, questions were constructed that would elicit responses regarding impact and benefit of participants past experiences. "Did participating in a health and wellness program at Turtle Mountain as youth result in positive impact and benefit" and "Do females place more value on health, nutrition and education than males on the reservation" were the research questions finally decided on. Experiential learning, as discussed within, from past participants using reflection as an overall positive response regarding impact and benefit from participation in BYAP/NYSP.

Results revealed in Chapter IV show evidence to support the hypothesis for Research Question 1 and accept the null hypothesis for Research Question 2. Results in the descriptive statistics in Chapter IV indicated that education provided by the BYAP/NYSP program does promote health and wellness as well as increase knowledge of participants who were members of the program and that this program works in the Native American community of Turtle Mountain. This supports the need for future efforts in health promotion and wellness efforts in several categories including education, nutrition, overall health, as well as tobacco and alcohol use. This research accepts the null hypothesis for Research Question 2 because results from the T-test show no statistical significance.

Results from the analysis did imply a correlation to support females placing more value in education and nutrition while men place more value in exercise; however, the findings were not statistically significant and the null hypothesis was accepted for Research Question 2. The strengths of this body of research, based on the findings from the survey regarding the impact and benefit of the health education program, as identified by the participants was of utmost value to the sustainability of health prevention programs for the members of the Turtle Mountain Chippewa Tribe to ensure life-long health.

Chapter V includes a discussion of the study and its limitations, provides recommendations for further study, links these findings to those of other research findings, and provides a summary as well as a conclusion.

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSIONS, AND RECOMMENDATIONS

According to Gasgow et al. (2004), prevention education is listed as one of the best practices for rural health initiatives. Health promotion and wellness are the most effective, cost efficient ways of educating communities and spreading knowledge to control disease in American Indian Populations. It is believed that health promotion and wellness could save lives and create a better future for our youth while saving billions of dollars in healthcare costs each year (Gasgow et al., 2004).

Past participants of the Belcourt Youth Activities Program/National Youth Sports Program were able to take their own unique experiences, reflections and observations, and helped frame research questions relevant to the education received through the long standing 10 year health and wellness program BYAP/NYSP. The results of this study and data elicited through responses from past participants were used to make recommendations for future health and wellness programs at Turtle Mountain.

Summary

Gasgow et al. (2004), lists chronic diseases such as heart disease, stroke, cancer, diabetes, and arthritis are among the most common, costly, and preventable of all health problems in the United States. Health Promotion has often been overlooked in various communities especially in American Indian (AI) populations (Gray, 2004). Prevention education, similar to that being done through the BYAP/NYSP program, may be a beneficial prevention program for those affected with these diseases. More studies are

needed to focus on health promotion and wellness throughout Native American populations. The data from chapter IV concludes that the past participants from Turtle Mountain agree that education is a key factor in health prevention programs working in Native American communities.

The Center for Disease Control (CDC), National Institute of Health (NIH), American Cancer Society, American Heart Association, Robert Wood Johnson Foundation, National Cancer Institute (NCI), and the National Heart, Lung and Blood Institute (NHLBI), have been leading the way in this area for many years. With the efforts of the CDC and other programs like the Department of Health and Human Services (DHHS), an increase in focus has been on the concepts of health Promotion and wellness. The BYAP/NYSP findings identify the impacts and benefits of education in health and wellness. Most respondents agreed 80.6% that nutrition education was a factor in their lives on a monthly, weekly or daily basis linked by the education received from BYAP/NYSP. Most respondents agreed 76.9% that physical activity was a factor in their lives on a monthly, weekly, or daily basis linked by the education received from BYAP/NYSP. Most respondents agreed 84.6% that career outlook and opportunity was a factor in their lives on a monthly, weekly, or daily basis linked by the education received from BYAP/NYSP. Most respondents agreed 76.9% that improved morale was a factor in their lives on a monthly, weekly, or daily basis linked by the education received from BYAP/NYSP.

Limited reports and research of evaluation models that provide evidence of the effectiveness of health education programs include the North Korea Cardiovascular Risk Reduction Project of 1972-1978, the Stanford Heart Disease Study of 1973, and the

National Multiple Risk Factor Intervention Trial of 1974 (Windsor, 2004). In 1981 the World Health Organization published the *Development for Monitoring Progress Toward Health for All by the Year 2000* (Kline & Huff, 2007). The WHO identified a strong need to develop a strategy to educate and strengthen the planning and design of studies primarily focusing on Health Promotion programs. Stone (1989) acknowledged further studies with youth populations concerning health promotion programs especially in the cardiovascular origin.

"The primary objective of all disciplines that contribute to the intellectual and practice foundation of program evaluation is the search for valid, empirical evidence to confirm that a health promotion program was delivered and to attribute a significant impact on the behavior and health status of a population at risk to the intervention," (Windsor, 2004, p. 1). The BYAP/NYSP program provides evidence, supported by research findings that health promotion and wellness efforts work in the Turtle Mountain community. The findings in relation to exercise, nutrition, and education were congruent to past research which indicates the need to provide long-term, prevention education programs with an overarching message that is supported by the local community and beneficial to improving the lives of those who participate. The link of past research to this study find that education delivered to youth is internalized and used in their daily living as adults. This is a valuable assessment for future research on the impact of the NYSP/BYAP health intervention program in the Turtle Mountains.

Constructs of Physical Activity, Nutrition and Education

Four modifiable health risk behaviors are responsible for much of the illness, suffering, and early death related to chronic diseases: lack of physical activity, poor

nutrition, tobacco use, and excessive alcohol consumption (CDC, 2014). For this reason, most efforts, especially with youth, need to concentrate efforts in education towards the above risk behaviors. Studies like that of the BYAP/NYSP program validate the need for continued health promotion efforts implied through the data elicited from the survey. In the Turtle Mountain community especially, curriculum provided in the program has to be tailored to these areas of concern. The BYAP/NYSP program targeted diabetes prevention, tobacco and alcohol prevention strategies, career outlook and opportunity, general nutrition, and physical activity as their main goals over the course of a 10-year period. The findings by the data elicited in the categories education, nutrition, and physical activity indicate a recurring theme. Past participants are educated, understand their overall health and wellness, understand the need for daily nutritional needs, and understand the need for higher education.

Discussion

The findings from the surveys did not show statistical significance that females place more value in nutrition, exercise, and education than did males. Most past participants valued the education and health promotion and wellness efforts by the BYAP/NYSP.

Some respondents indicated that a few questions were difficult to understand so they did not answer those particular questions. Future surveys should revise these questions so as to be understood by all respondents.

Results indicated that the BYAP/NYSP program has worked at promoting healthier lifestyles, education, wellness, and health promotion within this surveyed group that represents a multitude of age categories and races. By the responses received,

results were able to validate that past participants did value their health and overall wellness and they use the past education received from BYAP/NYSP in their daily living as adults.

Conclusion

Kline & Huff (2007) state, "Although no single intervention appear to have maximal effectiveness with a single geographic area, multiple areas of academic domains seem more efficient in sustaining a lifelong message". Windsor (2004) adds "Evaluation is the single most way to learn what works and what does not work". According to Kline & Huff (2007), in January 2000, the DHHS and WHO released the *Healthy People 2010* initiative that was a part of the WHO "Health for All" strategy in 1981. This initiative took a heightened demand for preventative health services and the quality of health care, improved surveillance and data systems that aimed at Health Promotion-Disease Prevention (HPDP) objectives. Collectively, the new focus was on academic courses, curriculum, prevention education, and training programs with an emphasis on evaluation of health promotion programs that focus on areas listed in the *Healthy People 2010* objectives. *Healthy People 2010* established special population targets for ethnic and minority groups and specific age groups.

The survey responses reflected the objectives of the Healthy People 2010 report. Respondents identified that the education received from BYAP/NYSP was linked as a health and wellness factor in their lives in the area of nutrition 80.6%; physical activity 76.9%; career outlook and opportunity 84.6%; and improved morale 76.9%. Furthermore, the findings indicated that education is a key tool for promoting healthier behaviors for youth transitioning into adulthood. The responses to the demographic

questions brought an awareness that several different races were served by the BYAP/NYSP program.

Survey responses establish the likely probability that the BYAP/NYSP program has contributed to the attainment of higher education by the number of past participants who have earned an associate's degree or higher. The message delivered through BYAP/NYSP in the career outlook and opportunity section affirmed the value of continuing education throughout the past 10 years of the program's existence. As indicated in the research, only 17% of American Indians begin college and only 4% finish (Northwest Area Foundation, 2014). Results from the BYAP/NYSP sample group indicated that 84.6% link a more positive outlook with a career. The BYAP/NYSP data reported that 65.4% of respondents have an associate's degree or higher which is 61% higher than the national average. This was not surprising at all due to the message delivered continuously over time by highly educated and inspirational leaders residing within the Turtle Mountain community. The higher education of the participants could be a result of the career outlook and opportunity programming offered through BYAP/NYSP. If this is true, this may be another research study in itself.

It is worth noting that surveying the 200 past participants in the age categories of 18 and over was a noble goal; however, the difficulty of attaining those responses was not anticipated and perhaps the reasons behind that could be studied in the future. The actual respondents, 52, were the sample from which responses were received.

Limitations

Some limitations of the BYAP/NYSP study that may have affected the results include:

1. The research sample size was not as large as intended.
2. Some respondents did not understand some of the survey questions.
3. Some of the questions may have been better answered through an interview process.
4. A qualitative study rather than a quantitative study might have elicited more in depth response.
5. Past participants may not have the resources or ability to utilize the technology (Facebook or email) to access the on-line survey that was sent through.

Recommendations

Where do health promotion and wellness program advocates go from here based on the results from the study? That answer lies in the hands of local tribal leaders and school initiated development offices. Some communities may have a different perspective on the ways of the curriculum and the argument for or against. With every community there are challenges and there are successes. What every community must do is weigh those and find out what works best for them. Even with the increased efforts of the CDC, DHHS, NIH, NCI and others, there still lies a need for increased educational promotion as well as health education in areas of concern across the United States and especially in Native American communities.

According to Kline & Huff (2007), Indian Health Services reports American Indians have a higher rate of common treatable disease than any other ethnic race. The prevalence of cardiovascular disease among Native Americans today is more than double that of the general population and they are 2.6 times more likely to receive a

diabetes diagnosis than that of the non-Hispanic whites of similar age. With health risk behaviors of Native Americans higher than the average American, the need for prevention education in areas such as obesity, smoking, substance abuse, nutrition, alcoholism, accidents, depression, and suicide is a must for all local educational agencies and communities in Native American country.

To ensure that the 10-year health and wellness program BYAP/NYSP was successful, community resourcing and collaboration are part of what is required to be sustainable. Now, more sustainable prevention education programming efforts at Turtle Mountain need to be instituted over a continuum of time for the positive impact and benefits to the community. Results and indications from the survey support more efforts to spread the word about health promotion and wellness. A plan was crafted to address the health and wellness of key stakeholders; youth, middle age, and elders with activities crafted around key areas that initiate health promotion and disease prevention programs. The plan is simple yet lays the foundation for dealing with Tribal Councils, youth groups, elder groups, adult groups, and various Tribal organizations and support groups.

Recommendation Plan for Health Promotion

As a sound practitioner, research and evidence is always key when someone's health is at stake. As Windsor (2004) discussed, a core competency of public health practice, theory, and methods derived from multiple academic disciplines need to be employed by local educational agencies and communities.

The following are recommendations for Native American populations wishing to start health promotion wellness efforts in their respected communities:

- Education-Health promotion and disease prevention are at the forefront of an educational design which employs community support groups, youth leadership groups, adult leadership groups, elder leadership groups and Tribal leadership to advocate for strong health education programs in all PK-12 educational agencies as well as the higher education program within the community.
    - Youth, adults, and Elders should employ effective, culturally responsive, education materials and instruction.
    - Establish a strategic plan.
    - Provide health and wellness education that is culturally relevant, respectful, and related to experiences.
    - Seek participants to be actively involved in creating the workshops, strategic planning, and curriculum.
- Community Support-All community support groups work together to actively plan a calendar of community events which are strategically aligned with health education efforts in PK-12 and higher education agencies within the community.
    - Youth, adults, and Elders should establish communication as a key when getting all stakeholders involved in the process.
    - Seek volunteers who will be needed to carry out all goals of a community-wide effort to improve health promotion and wellness efforts.
    - Enlist family engagement which will be needed along with environments for youth, adults, and Elders that will be the mainstay for programming.

    - Use local cultural practices to create and strengthen the plans for health promotion and wellness.
    - Create groups for special populations so that they are empowered to address their own distinct age category or specific group.
- Youth Leadership Group-Future leader's active in community support who seek collaboration among adults, elders, and Tribal leaders. Main initiatives focus on carrying out activities outlined throughout this youth leadership plan.
    - Employ effective educational practices geared toward the specific targeted age group of youth.
    - Empower this specific group to start and design a strategic plan and an environment for maximizing health promotion and wellness programming.
    - Provide activities specifically for this age group that are culturally responsive and that foster growth through education and knowledge.
    - Leave decision making up to key leaders of this age through initiatives such a Youth Wellness Council.
- Adult Leadership Group-Leaders within the community that may have significant roles or titles and are a part of health education initiatives, have communication/networking background, have diversity background, a part of the higher education programs, a part of the PK-12 educational agencies, marketing directors, financial advisers, role models, coaches, presenters, speakers, and political advisers that may have significant impact with legislation or new reform/policies and procedures.

    - Adults will need to employ effective educational practices to this specific targeted age group.
    - Use educational forums and presenters as key motivators and to drive attendance.
    - Enlist the education system, higher education system, health programs, and PK-12 education programs to be members of sub-groups within this plan.
    - Provide positive role modeling throughout the community.
    - Empower this specific group to start and to design a strategic plan and an environment for maximizing health promotion and wellness programming.
    - Provide activities specifically for this age group that are culturally responsive and foster growth through education and knowledge.
    - Leave decision making up to key leaders of this age through initiatives such as a Council on Health.
- Elder Leadership Group-Past leaders and visionaries that provide culturally significant leadership and are grounded in sound practices that seek out participation by all community members and demand collaboration from youth leaders, community support groups, adult leaders and Tribal leaders.
    - Elders will need to employ effective educational practices geared to this specific targeted age group.

    - Empower this specific group to start and design a strategic plan and an environment for maximizing health promotion and wellness programming.
    - Provide activities specifically for this age group that are culturally responsive and that foster growth through education and knowledge.
    - Leave decision making up to key leaders of this age through initiatives such as an Elders Community Health Collaboration.
    - Provide positive role modeling throughout the community.
    - Provide continuing health screens as initiatives for group attendance.
    - Provide workshops that detail key health promotion and wellness topics and key subjects.
- Tribal Leadership-Gate keepers who keep accurate records, regulate research and data, seek engagement with the community as well as market and seek regulated public relations.
    - Tribal Leaders and Tribal Government will need to provide strong leadership as it is essential for long-term strength and survival of initiatives like this.
    - Establish a Tribal Nations Research Group. To improve the quality of life for all tribal members through culturally competent, custom fit research. The purpose of the Tribal Nations Research Group is promotion of high quality research relevant to the Turtle Mountain Band of Chippewa Indians. The research results provide custom fit data and data ownership, promotes public and private economic development and

opportunity, and upholds positive images of Turtle Mountain Band of Chippewa Indians.

- Provide monetary resources along with other resources so that a staple to the continuum of initiatives like health promotion and wellness is sustainable.
- Share a vision which will need to be established from the Tribal Leaders.
- Create an atmosphere that fosters growth, education, and culturally responsive education and affirms the direction the tribe will go.
- Establish resolutions to support programs relating to health promotion and wellness.
- Create a welcoming environment for all programs.
- Invest in the future. It will pay off with long-term health.

Future Research Recommendations

Recommendation I

Future research opportunities should be made available to determine nutrient contents of food assistance programs (e.g., FDPIR commodities, school meals) as well as local Native foods that should be compared to traditional Native foods. The identification and evaluation of the effectiveness of community-based lifestyle changes in behavior, nutrition and physical activity to improve health and the quality of life are also necessary (Gray, 2004).

Recommendation II

Future studies may want to target areas to improve the services that are offered in the BYAP/NYSP. There may also be a need for a qualitative research design to get rich

and thick descriptions of what most stood out to participants that made them more aware of their own health and how to truly experience a better quality of life.

Recommendation III

Another substantial future research study should be focused at the qualitative design method that focuses on rich and thick descriptions of health promotion efforts that have worked for past participants of the BYAP/NYSP program on the Turtle Mountain Reservation. This study may consider studying the values about nutrition, exercise, and education in regard to health findings from past participants in relation to those who were not participants of the BYAP/NYSP program.

Recommendation IV

When designing health promotion and wellness programs, special population groups need to be discussed. It is always meaningful to identify resources and networks that can help you achieve the goals of your health promotion and wellness programs. Keep in mind that research-based, best practices, and cutting edge information is always the norm in the science behind health-related education. More physical activity classes and health classes have to align standards and practices with those areas that are most beneficial for youth to utilize throughout their lifetime. Whether or not promotion of career outlook and opportunity programs promotes higher education in Native American Indian students could be another avenue for extended research.

Closing Summary

The BYAP/NYSP study explored the impact and benefits of past participants in a health and wellness education program at Turtle Mountain. The results of this study are comparable to Windsor's (2004) indications. According to Windsor (2004), evaluations of behavior impacts on health are rarely reported and the health promotion literature reports very few examples of rigorous research. Using data from participants indicated significance of repetitious health promotion and wellness efforts with youth. Past participants were able to use their knowledge gained from the BYAP/NYSP program and apply that to their overall health and wellness on a daily basis. Findings indicate that past participants were educated, applied nutritional strategies on a daily basis, applied physical activity on a daily basis, were less likely to use alcohol, less likely to use tobacco, and applied strategies to maintain a healthy weight.

The conceptual framework of experiential learning theory supported the design of this study. The focus on validating the need for continued programming efforts in wellness education on Turtle Mountain Indian Reservation was accomplished through exploring the impact and benefit on past participants. By using experiential learning to validate a hypothesis, the learners framed a design for this study. That design was the foundation from which the questions were constructed, hypothesis and null hypothesis were tested and valid results were yielded.

APPENDICES

Appendix A.
Survey

UND UNIVERSITY OF NORTH DAKOTA

Gender

○ Male ○ Female

Please select the year or the summer that you participated in the BYAP/NYSP program. Check all that apply.

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Please select your age range

18-21 ○ 22-25 ○ 26-29 ○

Please check all that apply

☐ Turtle Mountain Chippewa ☐ Other American Indian or Alaska Native ☐ White/Caucasian ☐ Native Hawaiian Pacific Islander ☐ Other

☐ Black/African American ☐ Multi-racial ☐ Hispanic/Latino ☐ Asian

Highest Level of Education

○ Grades 1-8 ○ Grades 9-11 ○ High School Graduate ○ GED ○ Vocational Certificate

○ Associate Degree ○ Bachelors Degree ○ Master's Degree ○ Doctoral Degree ○ Other

Please choose the option that best describes your weight?

○ Underweight ○ Healthy Weight ○ Overweight ○ Obese

Which of the following are you trying to do about your weight?

○ Not trying anything ○ Maintain weight ○ Lose weight ○ Gain weight

Please choose the primary reason for trying to do anything about your weight?

○ Recommended by a health care provider ○ Manage a chronic health condition ○ Prevent a chronic health condition ○ Increase my energy levels ○ Look Better

I typically sleep?

○ 6 or less hours ○ 7 hours ○ 8 hours ○ more than 8 hours

Have you ever been diagnosed with diabetes within the past....

☐ year ☐ five years ☐ ten years ☐ Does Not Apply

My cholesterol is.....

○ Normal ○ High (240m/dl) ○ Normal with Medication ○ Type Other response

How would you describe your overall health and wellness?

○ Excellent ○ Good ○ Fair ○ Poor

What are your top challenges with implementing wellness behaviors?

○ Difficulty in engaging in physical activity 3-4 times a week ○ Trouble with getting a good night's sleep ○ Difficulty eating 5 fruits and vegetables daily ○ Difficulty maintaining or striving toward a healthy weight ○ Stress Management

My blood pressure typically is....

○ Low ○ Normal ○ Normal and under high (Defined as controlled, 140/90, with the use of medication mmHg) ○ Unknown ○ High

A culture of wellness refers to education, resources, and programs to support multi-dimensional health and wellness in the Turtle Mountain environment which supports healthy living for all members. Please comment about what you think would most impact and benefit the quality of life for members of the Turtle Mountain Community.

Please write your answer in the text below

○

The health and wellness education provided through NYSP/BYAP has helped improve my understanding of alcohol consumption? Please choose the option that best describes your alcohol use?

Never	Less than Once Per month	Once a Month	2-3 Times a Month	Once A week	2-3 Times A week	Daily
○	○	○	○	○	○	○

The health and wellness education provided through NYSP/BYAP has helped improve my understanding of tobacco use? Please choose the option that best describes your tobacco use?

Never	Less than once per month	once a month	2-3 times a month	Once a week	2-3 times a week	Daily
○	○	○	○	○	○	○

Three constructs important in researching the benefits of NYSP/BYAP programs have been identified as prevention education, nutrition and physical acitvity. The next few questions are helpful in the research behind the effectiveness of educational prevention programs such as NYSP/BYAP.

	Never	Less than Once per Month	Once a Month	2-3 times a Month	Once a Week	2-3 times a Week	Daily
18. How Often do you engage in cardiovascular exercise? This is activity that makes your heart pump and you breathe harder and includes walking, pushing a lawn mower, shoveling, and biking.	○	○	○	○	○	○	○
19. How Often do you engage in muscle-strengthening exercises in an average week? This includes yoga, sit-ups, push-ups, weight lifting, pilates, heavy gardening?	○	○	○	○	○	○	○
20. How often do you eat 1/2 cup or more of vegetables during an average day? Examples include: 5 broccoli florets, 6 baby carrots, 1 ear of corn, large sweet potatoes, 2 large stalks of celery, 1 large bell pepper?	○	○	○	○	○	○	○
21. How Often do you eat 1/2 cup or more of fruit during an average day? Examples include: applesauce, 16 grapes, 4 large strawberries, 1 small box of raisins, apples, oranges, bananas, 3 medium plums, 1 medium grapefruit, 18 oz. glass of juice.	○	○	○	○	○	○	○
22. The Health and Wellness education provided through NYSP/BYAP has helped me to engage in physical activity on a regular basis.	○	○	○	○	○	○	○
23. The health and wellness education provided through NYSP/BYAP has helped me to follow appropriate nutrition guidelines on a regular basis (5-7 nutritionally balanced meals per week).	○	○	○	○	○	○	○
24. The health and wellness education provided through NYSP/BYAP has helped me to have a more positive outlook regarding career opportunity?	○	○	○	○	○	○	○
25. The health and wellness education provided through NYSP/BYAP has helped improve my morale?	○	○	○	○	○	○	○

Appendix B.
Email Letter to Survey Participants

Good Morning:

My name is Shane Martin and I am currently a student in the Educational Leadership Doctoral Cohort through the University of North Dakota. I will soon begin research for my dissertation entitled "Exploring the Impact and Benefits of a Health Education Program at Turtle Mountain." The study will explore participants responses regarding the impact and benefit of the on their life-long health and wellness.

Using the registry compiled during the 10 years the BYAP/NYSP program was implemented at Turtle Mountain, you have been identified as a past participant. As a result, please consider this a request to be a part of this valuable study. The link to the survey is attached to this email or Facebook message. The link to click on is https://und.qualtrics.com/SE/?SID=SV_a2EtHzHGuNoe4vz.

The survey is 25 questions long and will be offered as multiple choice and Likert scale multiple choices. It takes approximately five minutes to complete. No names will be used, and confidentiality is assured. If you have any questions, you can e-mail me at Shane.martin@sendit.nodak.edu or call (701)-278-2764.

Thank you for your time and consideration.

Sincerely,

Shane Martin, CSCS

Appendix C.
Facebook Letter to Survey Participants

Dear NYSP/BYAP Participant:

My name is Shane Martin and I am currently a student in the Educational Leadership Doctoral Cohort through the University of North Dakota. I will soon begin my research for my dissertation regarding the roles of health prevention programs on the Turtle Mountain Band of Chippewa Reservation.

My dissertation title is "Exploring the Impact and Benefits of a Health Education Program at Turtle Mountain." Using our past participant registry, the BYAP/NYSP program has identified you as a past participant falling in the age category of 18 and above which is the primary age I will focus my research on.

The purpose of my study is to discover differences and similarities among Native American men and women with health education. There will be a total of, up to, 250 men and women that will be a part of this study through the University of North Dakota. Your participation in the study will take approximately five minutes in length to complete the survey. I will contact you via email or Facebook with a link to take the 25-question survey.

You may experience frustration or discomfort when completing this survey due to the sensitive nature. Please skip any question you would prefer not to answer. If you become upset by the questions, you may stop at any time. If you would like to talk to someone about your feelings, you are encouraged to contact the UND's counseling center at (701) 777-2127.

You may not benefit personally from participating in this study. However, the research may be very helpful to young Native American men and women across the Turtle Mountain Band of Chippewa in regards to health education and wellness.

If you choose to participate in this study, you will not be identified. The records of this study will be kept in the researcher's office in a locked safe for three years and will then be shredded. All information will remain confidential with the researcher, advisor, and UND Institutional Review Board (IRB) and will be disclosed only with your permission. Your participation is voluntary, and you may choose not to participate.

If you have any questions, concerns, or complaints about the research, please contact Shane Martin during the day at (701) 278-2764, my advisor Dr. Loretta DeLong at (701) 777-3577, or the University of North Dakota Institutional Review Board at (701) 777-4279.

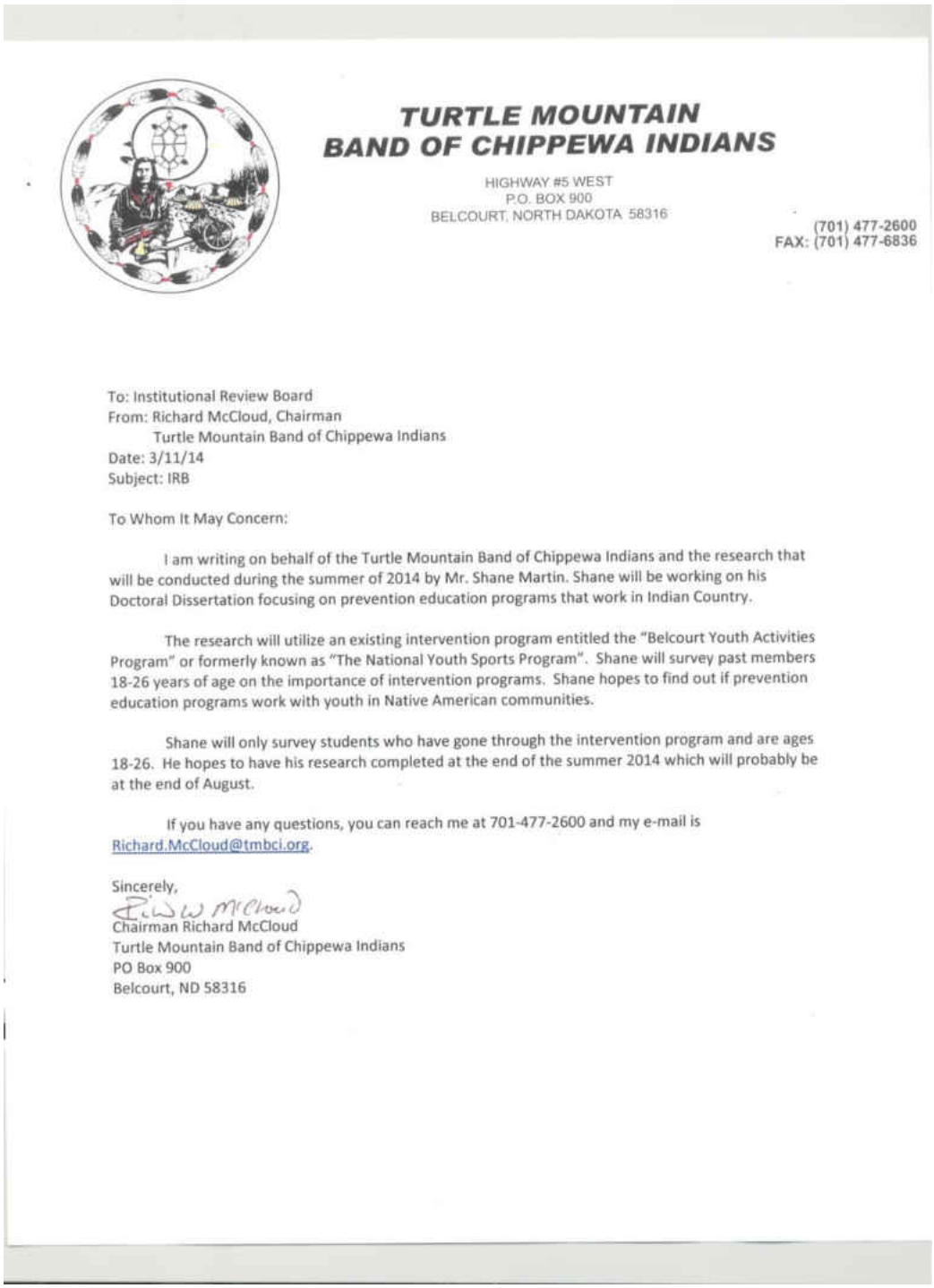
Thank you for your participation in this study. Please email your responses to shane.martin@sendit.nodak.edu or via Qualtrics at www.und.qualtrics.com.

Sincerely,

Shane Martin
Shane.martin@sendit.nodak.edu

Dr. Loretta DeLong
Loretta.delong@email.und.edu

Appendix D.
Letter of Support from Turtle Mountain Band of Chippewa Indians



TURTLE MOUNTAIN
BAND OF CHIPPEWA INDIANS

HIGHWAY #5 WEST
P.O. BOX 900
BELCOURT, NORTH DAKOTA 58316

(701) 477-2600
FAX: (701) 477-6836

To: Institutional Review Board
From: Richard McCloud, Chairman
Turtle Mountain Band of Chippewa Indians
Date: 3/11/14
Subject: IRB

To Whom It May Concern:

I am writing on behalf of the Turtle Mountain Band of Chippewa Indians and the research that will be conducted during the summer of 2014 by Mr. Shane Martin. Shane will be working on his Doctoral Dissertation focusing on prevention education programs that work in Indian Country.

The research will utilize an existing intervention program entitled the "Belcourt Youth Activities Program" or formerly known as "The National Youth Sports Program". Shane will survey past members 18-26 years of age on the importance of intervention programs. Shane hopes to find out if prevention education programs work with youth in Native American communities.

Shane will only survey students who have gone through the intervention program and are ages 18-26. He hopes to have his research completed at the end of the summer 2014 which will probably be at the end of August.

If you have any questions, you can reach me at 701-477-2600 and my e-mail is Richard.McCloud@tmbci.org.

Sincerely,

Chairman Richard McCloud
Turtle Mountain Band of Chippewa Indians
PO Box 900
Belcourt, ND 58316

Appendix E.
Letter of Support from Turtle Mountain Community Schools

Turtle Mountain Community School
Belcourt School District No. 7

PO BOX 440
BELCOURT, ND 58316-440
PHONE: (701) 477-6471
FAX: (701) 477-6470

We Are An Equal Opportunity Employer

March 11, 2014

To: *Institutional Review Board*
From: *Dr. Lana DeCoteau, Superintendent*
Turtle Mountain Community Schools
Subject: *IRB*

To Whom It May Concern:

I am writing on behalf of the Turtle Mountain Community Schools and the research that will be conducted during the summer of 2014 by Mr. Shane Martin. Shane will be working on his Doctoral Dissertation focusing on prevention education programs that work in Indian Country.

The research will utilize an existing intervention program entitled the "Belcourt Youth Activities Program" or formerly known as "The National Youth Sports Program". Shane will survey past members 18-26 years of age on the importance of intervention programs. Shane hopes to find out if prevention education programs work with youth in Native American communities.

Shane will only survey students who have gone through the intervention program and are ages 18-26. He hopes to have his research completed at the end of the summer 2014 which will probably be at the end of August.

If you have any questions, you can reach me at 701-477-6471 and my e-mail is lana.decoteau@sendit.nodak.edu.

Sincerely,

Dr. Lana DeCoteau, Superintendent
Turtle Mountain Community Schools
PO Box 440
Belcourt, ND 58316

Appendix F.
University of North Dakota IRB Approval Letter

UNIVERSITY OF NORTH DAKOTA

UND.edu

DIVISION OF RESEARCH & ECONOMIC DEVELOPMENT

Institutional Review Board
c/o Research Development and Compliance
Twamley Hall, Room 106
264 Centennial Drive Stop 7134
Grand Forks, ND 58202-7134
Phone: 701.777.4279
Fax: 701.777.6708

May 29, 2014

Shane Martin
P. O. Box 1767
Belcourt, ND 58316

Dear Mr. Martin:

We are pleased to inform you that your project titled, "Exploring the Impact and Benefits on Participants of a Health Education Program at Turtle Mountain" (IRB-201405-471) has been reviewed and approved by the University of North Dakota Institutional Review Board (IRB). The expiration date of this approval is December 31, 2014.

As principal investigator for a study involving human participants, you assume certain responsibilities to the University of North Dakota and the UND IRB. Specifically, any adverse events or departures from the protocol that occur must be reported to the IRB immediately. It is your obligation to inform the IRB in writing if you would like to change aspects of your approved project, prior to implementing such changes.

When your research, including data analysis, is completed, you must submit a Research Project Termination form to the IRB office so your file can be closed. A Termination Form has been enclosed and is also available on the IRB website.

If you have any questions or concerns, please feel free to call me at (701) 777-4279 or e-mail michelle.bowles@research.und.edu.

Sincerely,

Michelle L. Bowles, M.P.A., CIP
IRB Coordinator

MLB/jle

Enclosures

Appendix G.
Report of Action: Exempt/Expedited IRB Review

REPORT OF ACTION: EXEMPT/EXPEDITED REVIEW
University of North Dakota Institutional Review Board

Date: 5/21/2014 **Project Number:** IRB-201405-471

Principal Investigator: Martin, Shane

Department: Educational Leadership

Project Title: Exploring the Impact and Benefits on Participants of a Health Education Program at Turtle Mountain

The above referenced project was reviewed by a designated member for the University's Institutional Review Board on 5/28/2014 and the following action was taken:

☐ Project approved. **Expedited Review** Category No. ______
Next scheduled review must be before: ______

☐ **Copies of the attached consent form with the IRB approval stamp dated ______ must be used in obtaining consent for this study.**

☒ Project approved. **Exempt Review** Category No. 2
This approval is valid until DEC 31 2014 as long as approved procedures are followed. No periodic review scheduled unless so stated in the Remarks Section.

☐ **Copies of the attached consent form with the IRB approval stamp dated** N/A **must be used in obtaining consent for this study.**

☐ Minor modifications required. The required corrections/additions must be submitted to RDC for review and approval. **This study may NOT be started UNTIL final IRB approval has been received.**

☐ Project approval **deferred. This study may not be started until final IRB approval has been received.** (See Remarks Section for further information.)

☐ Disapproved claim of exemption. This project requires Expedited or Full Board review. The Human Subjects Review Form must be filled out and submitted to the IRB for review.

☐ Proposed project is not human subjects research as defined under Federal regulations 45 CFR 46 or 21 CFR 50 and does not require IRB review.

☐ Not Research ☐ Not Human Subject

PLEASE NOTE: Requested revisions for student proposals MUST include adviser's signature. All revisions MUST be highlighted and submitted to the IRB within 90 days of the above review date.

☒ Education Requirements Completed. (Project cannot be started until IRB education requirements are met.)

cc: Dr. Loretta M. DeLong

[signature] 5/28/2014
Signature of Designated IRB Member — Date
UND's Institutional Review Board

If the proposed project (clinical medical) is to be part of a research activity funded by a Federal Agency, a special assurance statement or a completed 310 Form may be required. Contact RDC to obtain the required documents.

(Revised 10/2006)

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