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# The Effects of Cultural Participation on Health Outcomes among American Indian/Alaska Native Elders

Collette Adamsen

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THE EFFECTS OF CULTURAL PARTICIPATION ON HEALTH OUTCOMES AMONG  
AMERICAN INDIAN/ALASKA NATIVE ELDERS

by

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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

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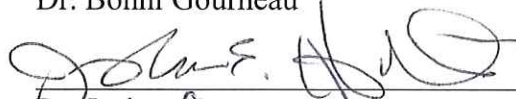
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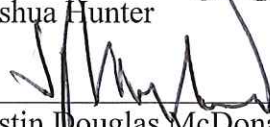
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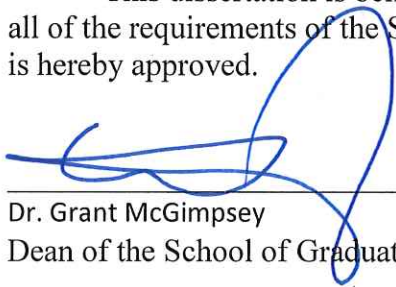


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This dissertation is being submitted by the appointed advisory committee as having met all of the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.



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Dean of the School of Graduate Studies

April 23, 2018

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## ABSTRACT

American Indian/Alaska Native (AI/AN) history represents a number of traumatic events inflicted upon each tribal generation that has yet to recover. These events have led to major consequences on the health of this population. AI/AN people experience the worst health disparities in the nation (Espey et al., 2014; Warne & Lajimodiere, 2015). Previous studies have shown that loss of land, cultural devastation, and inadequate health care access are associated with the high rates of health disparities endured by AI/AN people throughout North America (Walters, et al., 2011). AI/AN beliefs tell us that culture serves a fundamental role in managing good health and wellness. It is viewed as the primary vehicle for delivering healing among this population (Bassett, Tsosie & Nannauck, 2012). This study utilized the data from the, *“Identifying Our Needs: A Survey of Elders VI,”* which is a national AI/AN elder needs assessment. The purpose of this study was to describe the characteristics of the sample population and to conduct a binary logistics regression analysis to determine if cultural participation was an association with health outcomes among AI/AN elders, which included the three variables of health status, diagnosis of chronic disease, and nutritional health. The data analysis indicated the following results: (1) a positive association between cultural participation and self-reported health status; (2) no statistically significant relationship between cultural participation and diagnosis of chronic disease; and (3) no statistically significant relationship between cultural participation and nutritional health. The results can be used to address gaps in the literature in terms of cultural participation and health outcomes among AI/AN elders.

## **CHAPTER I**

### **INTRODUCTION**

American Indian/Alaska Native (AI/AN) history represents a number of traumatic events inflicted upon each tribal generation that has yet to recover. These events have led to major consequences on the health of this population. AI/AN people experience the worst health disparities in the nation (Espey et al., 2014; Warne & Lajimodiere, 2015). Previous studies tell us that when compared to other groups, AI/AN's fair worst in almost every health category (Mendenhall et al., 2010; Reid, Taylor-Moore, & Varona, 2014; Roh et al., 2015; United States Census Bureau 2010; Martin, Yurkovich, & Anderson, 2016). Other studies conclude, in comparison to other racial/ethnic populations in the United States, AI/AN elders are at greater risk of dying from injuries and chronic conditions (Okoro et al., 2007). Furthermore, the existence of higher mortality rates occur in the AI/AN population more frequently when compared to the U.S. general population in the following categories: chronic liver disease and cirrhosis (368 percent), diabetes mellitus (177 percent higher), unintentional injuries (138 percent), assault and homicide (82 percent), intentional self-harm and suicide (65 percent higher), and chronic lower respiratory diseases (59 percent higher) (Indian Health Service, 2014; Braun & LaCounte, 2015). Presently, health statistics describing the AI/AN population are not auspicious, but rather distressing compared to the rest of the U.S. general population.

Previous studies have shown that loss of land, cultural devastation, and inadequate health care access are associated with the high rates of health disparities endured by AI/AN people throughout North America (Walters, et al., 2011). It is believed the cultural trauma experienced by this population is responsible for the epidemic of disease and decline in health. For example, before the assimilation period, all chronic conditions including diabetes were practically nonexistent in Indian country (McLaughlin, 2010). In fact, the AI/AN population was considered to be free of chronic and infectious diseases before contact with Europeans (Fialkowski, Okoror, & Boushey, 2012). Therefore, suffering the loss of their traditions, cultural practices, and associated healthy lifestyles continues to have negative consequences on the health of this population.

“Culture is defined as a representation of past and present experiences of shared history, language, and psychological lineage among people that expands across many generations of AI/AN people,” (Fialkowski et al., 2012, p. 298). Throughout the nation, there are many tribes that represent a diversity in their history, language, beliefs, and traditions. Each tribe has its own culture that we must differentiate from each other. Although there are consistent patterns among cultural traditional practices such as powwows, sweat lodge ceremonies, sun dances, smudging, and preparing culturally-based traditional foods may have some similar aspects, many of these cultural traditional activities are performed in a different way for each tribe. It is important not to over generalize each tribe in terms of their cultural traditional practices, but to acknowledge the diversity and uniqueness in these practices among different tribal communities.

Although, there are multiple terms to lump this population into one category such as AI/AN, Native, Native American, Indian, and Indigenous, each tribe has their own unique tribal name for their population. However, it has become common practice to generalize members of

each tribe as one population. The common term that national government agencies and academic articles currently utilize the most is AI/AN. At this time there is no one agreed upon consensus for the official term of AI/AN people in generalized terms. The terms mentioned above will be used interchangeably throughout the article to refer to this population to be cognizant of each tribe's preference in generalized terms due to the cultural differences among each tribal community.

For each tribe, in their own unique ways, culture represents the strength and resilience the AI/AN population has possessed throughout the years. It has served as a defense against the physical and cultural traumas experienced by this group including forced assimilation and acclimating to a westernized lifestyle. Before colonization, AI/ANs practiced their traditions and maintained deep connections to their culture. When their traditions and connections with the land and culture were disrupted, they believed their balance and harmony were disturbed (Patchell & Edwards, 2014).

AI/AN beliefs tell us that culture serves a fundamental role in managing good health and wellness. In fact, they view culture as medicine that is utilized to treat physical, emotional, mental, and spiritual illnesses. AI/AN people regard culture as an expanding process that assists in constituting an identity and gaining acceptance in the world based on their traditional beliefs (Bassett et al., 2012). Furthermore, it is viewed as the primary vehicle for delivering healing among this population (Bassett et al., 2012).

The National Institutes of Health/National Center for Complementary and Alternative Medicine (NCCAM) has identified an entire medical system of indigenous traditional healing methods and holistic treatments based on their cultural practices that can be used to treat acute and chronic conditions as well as promote health and wellbeing (Koithan & Farrell, 2010).

Although cultural practices of traditional healing have proved effective at improving the well-being of indigenous patients, health care providers remain skeptical of holistic style treatments. For instance, allopathic health providers do not appreciate the important role cultural participation in traditional ceremonies have served in the well-being of traditional AI/ANs (Koithan & Farrell, 2010). Traditional AI/ANs associate well-being with living a traditional lifestyle based on reciprocity, respect, sharing, and preserving harmony with human, the natural, and the spiritual realm rather than associating well-being with Western theory medical practices (Fialkowski et al., 2012).

The AI/AN population belief is that balance and harmony play an important role in maintaining good health for a person. The medicine wheel is a reflection of this belief since it establishes good health with a balance between four realms including mental, spiritual, emotion, and physical (Czyzewski, 2011). Belonging in the world and the relationship between health and social environment can be conceptualized by the four realms or directions represented in the medicine wheel (Czyzewski, 2011). The four realms are interconnected; therefore, an imbalance among the realms risk the health and well-being of the group and individuals. Many tribal communities hold the belief that an increase in chronic disease occurred due to an imbalance among the four realms or directions resulting in a decline of traditions and traditional foods, loss of culture, and/or loss of morale (Fialkowski et al., 2012). In fact, it has been suggested “at the root of health disparities” is the interruption AI/ANs experienced in terms of their homelands, land, language, culture, and religious beliefs (Satterfield, DeBruyn, Santos, Alonso, & Frank, 2016). Although evidence strongly suggests exposure to Western society lifestyle resulted in high levels of health disparities among this population, limited information exists in determining relationships between cultural participation and health outcomes. An improved understanding in

this area could potentially increase the opportunity for favorable health outcomes due to the development of culturally specific intervention and treatment programs designed to better serve this population.

The main focus of this study is determining whether cultural participation is associated with health outcomes among the AI/AN elder population. Research tells us when compared to modern Western medicine, tribes prefer a holistic approach offered by the traditional Indian health system and medicine men (McLaughlin, 2010). Therefore, maintaining harmony with the earth through traditional practices such as an AI/AN traditional diet, greeting the seasons and harvests ceremonies, and using native plants for healing to promote health are greatly valued by tribes (Koithan & Farrell, 2010). In fact, traditional foods are often referred to as medicine that is considered to be a source of health (Failkowski et al., 2012). In combination, these findings support the idea that the presence of culture and traditions provide benefit in maintaining good health among this population.

Connecting with traditional culture through treatments including language, traditional foods, ceremonies, traditional values, spiritual history, stories, songs, traditional plants, and canoe journeys promote improved health outcomes among the AI/AN population (Bassett et al., 2012). Additional research suggests, “bi-culturalism, or competence in the cultural values, knowledge, and skills characteristic of a minority and the majority culture, may be similarly and perhaps more strongly associated with health outcomes” (Duncan, McDougall, Dansie, Garrouette, & Buchwald, 2014). However, a gap in the literature is present in determining whether an association exists between cultural participation and health outcomes among the AI/AN population. Performing an analysis to determine if an association exists between cultural participation and health outcomes among AI/AN people could help in identifying solutions to

improve health outcomes. Factors such as inadequate living conditions, insufficient nutrition, and exposure to high levels of environmental contaminants along with high rates of chronic and infectious diseases have aided in the inferior health of this group (Barnes, Adams, & Powell, 2010; Walters et al., 2011). It is imperative that we find new and innovative approaches to effectively treat conditions to allow the opportunity for better health outcomes among AI/AN people. Therefore, this study is important since it utilizes current Native elder national data which provides the opportunity to become more knowledgeable in regards to the relationship between culture and health among this population.

### **Research Questions**

1. What are the demographics of the AI/AN elder population that participate and do not participate in cultural practices that include traditional food, music, and customs?
2. Is participation in cultural practices that include traditional food, music, and customs associated with health status among AI/AN elders?
3. Is participation in cultural practices that include traditional food, music, and customs associated with the diagnosis of chronic disease among AI/AN elders?
4. Is participation in cultural practices that include traditional food, music, and customs associated with nutritional health?

### **Importance of the Study**

The information obtained from this study could provide a culturally competent approach to health care when serving the AI/AN population. This study could impact treatment methods



used by health care facilities and providers in addressing health disparities among AI/AN people. While research is limited in finding associations between cultural participation and health outcomes, the findings of the present study may allow for the development of culturally specific treatment models that would assist in better health outcomes for the AI/AN population. The findings of this study could be utilized by Indian Health Service, Urban Indian Health Programs, tribal health care facilities, non-IHS health care systems, both IHS and non-IHS healthcare providers, health researchers, traditional healers, and federal, state, and tribal governments. With the potential to impact many entities serving the health care needs of AI/AN elders, conducting this study is important in identifying additional approaches for improving health outcomes for this population.

### **Theoretical Frameworks**

The theoretical frameworks driving this study are Tribal Critical Race Theory (TribalCrit) and Social Cognitive Theory (SCT). The TribalCrit tenets were used as they apply to the impact of forced colonization among the AI/AN population and the SCT tenets were used as they apply to behavior change in terms of preventative health practices and promotion of good health.

Indigenous people experienced an adverse history of events including colonization, genocide, forced removal from lands, and attempts to deny and eradicate cultural traditions, specifically language and traditional healing practices (Stanley et al., 2017). Despite strong armed attempts to assimilate this population into a western lifestyle, the AI/AN population were resilient in maintaining their culture and traditions. For this study, TribalCrit provides an understanding of the negative impacts of the combined detrimental events Indigenous people have endured since their first contact with European settlers spanning over the last 500 years

(Walters et al., 2011). TribalCrit equips the theoretical argument with the backdrop explaining what has led the AI/AN population to their present situation of health issues. In addition, using the tenets of this theory, it helps demonstrate the concept of culture through an Indigenous lens (Brayboy, 2005).

In a combined effort, SCT works with TribalCrit to illustrate the beneficial results of a decolonized lifestyle for AI/AN people, specifically as it pertains to the resilient efforts of preserving their culture and the positive impact this would have on health outcomes among AI/AN people as a result of returning to cultural traditions, which would lead to positive health behaviors.

Previous literature supports the idea that engagement in cultural traditions promote healthy behaviors among the AI/AN population, which include native dances and powwows, involving arduous physical activity (McLaughlin, 2010). In addition, traditional diets are often considered healthier than the westernized diets; previous studies reveal particular tribes regard the concept of food and illness in two separate categories in which “Indian” foods are considered healthful while “white man’s” food are considered unhealthful (Wiedman, 2005). Traditional foods consumed before colonization included wild game, which are leaner meats with low fat intake, and high-nutrient nuts, fruits and berries as well as crop foods consisting of beans, squash and whole grains (Compher, 2006). Most tribes hold the belief a return to a traditional diet rather than maintaining the modern or westernized diet will prevent adverse health effects among the AI/AN population (McLaughlin, 2010). In this study, the SCT constructs help to describe how a return to cultural traditions for AI/AN people will promote favorable health behaviors, which in turn is a form of de-colonization.

TribalCrit theory provides us with an understanding of the negative impacts of colonization on the health of the AI/AN population. Furthermore, it helps in explaining how forced assimilation into western lifestyle including loss of land, culture, and identity led to negative health behaviors that have resulted in health issues among this population. SCT helps to explain that engagement in cultural activities among AI/AN people promote positive health behaviors which result in better health outcomes.

Essentially, TribalCrit and SCT work together to provide a clear understanding of how colonization of AI/AN people resulted in negative behaviors, which has led to poor health outcomes. However, a return to a decolonized lifestyle including participation in cultural activities would effectively promote engagement in positive health behaviors, which would produce better health outcomes.

### **Tribal Critical Race Theory**

TribalCrit is a theoretical framework introduced by scholar Bryan Brayboy, a member of the Lumbee Tribe of North Carolina. According to Brayboy (2005), “TribalCrit has its roots in Critical Race Theory, Anthropology, Political/Legal Theory, Political Science, American Indian Literatures, Education, and American Indian Studies” (p. 425). Furthermore, he states, “TribalCrit emerges from Critical Race Theory (CRT) and is rooted in the multiple, nuanced, and historically- and geographically-located epistemologies and ontologies found in Indigenous communities” (Brayboy, 2005, p. 427).

Critical Race Theory (CRT), differs from TribalCrit in that CRT was developed to address race and racism, particularly in regards to issues of Civil Rights among African American people (Brayboy, 2005). As Brayboy (2005) states, “as such, it is oriented toward an

articulation of race issues along a “black-white” binary (much the way *Brown v Board* is)” (p. 429).

Although CRT does provide a theoretical framework that Indigenous researchers have utilized in studying race and legal/political issues among AI/AN people, it does not take into account the experience of colonization, the unique political status, sovereignty, or the unique relationship tribes retain with United States government. As Brayboy (2005) states, “CRT argues that racism is endemic in society, TribalCrit emphasizes that colonization is endemic in society while also acknowledging the role played by racism” (p. 430). He continues, “Much of what TribalCrit offers as an analytical lens is a new and more culturally nuanced way of examining the lives and experiences of tribal peoples since contact with Europeans over 500 years ago” (Brayboy, 2005, p. 430).

Brayboy developed a theoretical framework that addresses these specific issues for Indigenous people. TribalCrit “provides a way to address the complicated relationship between American Indians and the United States federal government and begin to make sense of American Indians’ liminality as both racial and legal/political groups and individuals” (Brayboy, 2005, p. 427). This quote tells us that AI/AN people have always been “stuck” in a sense in which they are unable to hold a true status. For example, tribes are considered sovereign nations, but are also “wards” of the government; meaning the government is essentially their guardian. In other words, due to colonization AI/ANs continue to have limits put on them as a race, a political group, and as individuals in terms of being free to make decisions that benefit them and their tribe.

Brayboy (2005) provides nine tenets within Tribal Critical Race Theory, which include the following:

1. Colonization is endemic to society.
2. U.S. policies toward Indigenous peoples are rooted in imperialism, White supremacy, and a desire for material gain.
3. Indigenous peoples occupy a liminal space that accounts for both the political and racialized natures of our identities.
4. Indigenous peoples have a desire to obtain and forge tribal sovereignty, tribal autonomy, self-determination, and self-identification.
5. The concepts of culture, knowledge, and power take on new meaning when examined through an Indigenous lens.
6. Governmental policies and educational policies toward Indigenous peoples are intimately linked around the problematic goal of assimilation.
7. Tribal philosophies, beliefs, customs, traditions, and visions for the future are central to understanding the lived realities of Indigenous peoples, but they also illustrate the differences and adaptability among individuals and groups.
8. Stories are not separate from theory; they make up theory and are, therefore, real and legitimate sources of data and ways of being.
9. Theory and practice are connected in deep and explicit ways such that scholars must work towards social change (p. 429-430).

In this study, TribalCrit theory is used to explore the impacts of colonization on the culture, health, and well-being of the AI/AN elder population. Brayboy (2005) defines colonization by stating, “by colonization, I mean that European American thought, knowledge, and power structures dominate present-day society in the United States (p. 430). Brayboy (2005) further states the following:

In this way, the goal, sometimes explicit, sometimes implicit, of interactions between the dominant U.S. society and American Indians has been to change (“colonize” or “civilize”) us to be more like those who hold power in the dominant society. For example, boarding schools were intended to “kill the Indian and save the man”; more recently, American Indians’ status as legal/political groups has been called into question with the goal of simply making them a “racial group” (p. 430-431).

AI/AN people involuntarily assimilated into a westernized lifestyle, being forced to abolish their cultural identity and adopt a colonized existence. As a consequence of these actions, direct suffering has been inflicted upon colonized generations, which has led to descendants of colonized generations experiencing assimilated feelings of inferiority and shame about their culture (Braun & LaCounte, 2015). As the colonization of one group is occurring, the dominating culture establishes their own worldviews through laws and social structures providing advantages to their group (Braun & LaCounte, 2015). In this regard, the colonization of AI/AN people to “White society” relate to tenets one thru six of TribalCrit theory.

Policies toward AI/AN people were developed to provide the advantage to non-AI/ANs for material gain of land and power. The government implemented a “policy designed to make farmers of the American Indians and thereby to help assimilate them into white society” (Hurt, 1987, p. 96; Vantrease, 2013, p. 56). For the most part, the belief was held that AI/ANs could not assimilate to the level of dominant society; therefore, they were considered inferior to non-AI/AN people. In fact, some Indian education advocates described Indian children as positioned at a lower level on the evolutionary ladder (DeJong, 2007); this has led to Native people feeling inferior to “White society” and challenges with health and social disparities. Furthermore, assimilation policies have resulted in confusion in terms of “Indian tradition” among AI/ANs,

leaving them to accept the attitudes related to European Christian influence in regards to reduced roles of women and children producing devastating outcomes (Dapice, 2006). The culmination of these actions continue to have negative consequences on the subsequent health issues of the AI/AN population due to cumulative intergenerational unresolved trauma (Solomon, Kotler, & Mikulincer, 1988; Warne & Lajimodiere, 2015).

The events introduced above aid in utilizes the tenets of TribalCrit to address the adverse effects on AI/AN culture, health, and well-being due to the adoption of a colonized lifestyle among the AI/AN population. In fact, the colonization efforts of AI/AN people have resulted in a struggle to decipher a pre-colonized lifestyle from a post-colonized lifestyle. For example, before colonization foods such as bison, maize, beans, squash, fish, and berries were considered traditional foods among AI/AN people (Vantrease, 2013). However, today foods like frybread, which is a fried piece of dough, are included as a cultural food that is part of traditional feasts (Vantrease, 2013); this is a post-colonization traditional food. As Brayboy (2005) states, “the colonization has been so complete that even many American Indians fail to recognize that we are taking up colonialist ideas when we fail to express ourselves in ways that may challenge dominant society’s ideas about who and what we are supposed to be, how we are supposed to behave, and what we are supposed to be within the larger population” (p. 431).

In this study, TribalCrit provides a critical lens to understand the events that resulted in poor health outcomes among AI/AN people with SCT presenting a way forward in providing a framework to promote healthy behaviors by reverting back to cultural traditions through resilient efforts.

## **Social Cognitive Theory**

SCT was developed by psychologist Albert Bandura. Social Learning Theory (SLT) is the theoretical framework Bandura utilized to create SCT. SLT asserts, “that people learn not only from their own experiences, but by observing those actions” (National Cancer Institute, 2005, p. 20). Bandura made the addition of the construct self-efficacy to SLT and renamed it SCT (National Cancer Institute, 2005). SCT performs the following functions in terms of theory:

SCT integrates concepts and processes from cognitive, behaviorist, and emotional models of behavior change, so it includes many constructs. It has been used successfully as the underlying theory for behavior change in areas ranging from dietary change to pain control (National Cancer Institute, 2005, p. 20).

Bandura (1989) provides an overview of the model of causation in which SCT was founded with the following statement:

Social cognitive theory favors a model of causation involving triadic reciprocal determinism. In this model of reciprocal causation, behavior, cognition and other personal factors, and environmental influences all operate as interacting determinants that influence each other bi-directionally. Reciprocal causation does not mean that the different sources of influence are of equal strength. Some may be stronger than others. Nor do the reciprocal influences all occur simultaneously. It takes time for a causal factor to exert its influence and activate reciprocal influences (p. 2-3).

In terms of health promotion and behaviors Bandura (1998) states, “the social cognitive approach works on the demand side by helping people to stay healthy through good self-management of health habits” (p. 624). In this study, SCT describes the health habits of AI/AN people as engaging in cultural activities that not only provide a healthier diet and physical activity (native



dances, powwows, hunting, canoeing, and other culturally active traditions), but also socio-cultural connections that help motivate the demand for positive behaviors that promote good health through community support. SCT is used to help explain how a decolonized lifestyle for AI/ANs may lead to better health.

### **Self-efficacy.**

Bandura (1998) provides the following perspective of SCT as it applies to health promotion and disease prevention:

This theory posits a multifaceted causal structure in which self-efficacy beliefs operate in concert with cognized goals, outcome expectations, and perceived environmental impediments and facilitators in the regulation of human motivation, action, and well-being. This approach addresses the socio-structural determinants of health as well as the personal determinants. The factors singled out in the various theories overlap with subsets of determination in social cognitive theory. It is acknowledged that these theories differ in their specific range of application. However, they are applied to a variety of health behaviors and will be considered briefly in relation to such applications. Social cognitive theory in its totality specifies factors governing the acquisition of competencies that can profoundly affect physical and emotional well-being as well as the self-regulation of health habits (p. 624).

For this study, self-efficacy is the main construct utilized to explain the capability and belief AI/ANs possess to maintain and use their cultural practices to guide towards health promoting behaviors. It serves as the center of SCT with the other constructs branching off to drive this study. Specifically, for the AI/AN population, self-efficacy in terms of self-determination and self-governing may further lead to a decolonized lifestyle for this group.

AI/AN people pass their cultural knowledge to future generations allowing them to embrace their culture to help aid in the fight against health and social disparities endured by this population. Previous studies reveal that resiliency among Native youth has been associated with a strong sense of ethnic identification (Galliher, Johnes, & Dahl, 2011; Schweigman, Soto, Wright, & Unger, 2011). Other studies support that a higher self-esteem is related to maintaining a strong ethnic identity (Jones & Galliher, 2007; Pittinger, 1998, Schweigman et al., 2011). The resiliency of the AI/AN population can be explained with SCT.

A sub-construct of self-efficacy in this framework is resilient self-efficacy, which Bandura (1989) states, “requires some experience in mastering difficulties through perseverant effort” (p. 1179). The AI/AN population have encountered many difficulties including exposure to foreign diseases, physical and psychological violence, economic deprivation, cultural dispossession, segregation, displacement (Braun, Browne, Sue Ka’opua, Jung Kim, & Mokuau, 2014) and subjugation imposed by military action, genocide, imprisonment, boarding schools, and policy (Sotero, 2006; Braun et al., 2014). Exposure to these types of treatments allowed this population to master the difficulties and persevere through maintaining their culture. Bandura (1989) further explains resilient efficacy as follows:

If people experience only easy successes, they come to expect quick results and their sense of efficacy is easily undermined by failure. Some setbacks and difficulties in human pursuits serve a useful purpose in teaching that success usually requires sustained effort. After people become convinced they have what it takes to succeed, they persevere in the face of adversity and quickly rebound from setbacks. By sticking it out through tough times, they emerge from adversity with a stronger sense of efficacy (p. 1179).

Furthermore, the subordination of self-interest in order to benefit others is performed by people with resilient self-efficacy and strong prosocial purpose (Bandura, 2002). Bandura states, “Parents in impoverished environments with resilient sense of efficacy refuse to have their children’s development dictated by adverse circumstance by bringing their influence to bear on things that matter through resourceful effort and self-sacrifice” (Bandura, 1997; Bandura 2002, p. 277). Each generation of AI/AN people reflect this effort in maintaining their culture with past generations serving a prosocial purpose in order to provide future generations better opportunities at reducing the rate of health problems within this population. Furthermore, the belief is held that integrating cultural knowledge into interventions is important in alleviating health and social issues among tribal communities (Weaver, 1999; Schweigman et al., 2011). Therefore, it is important to incorporate culture in the foundation of promoting good health.

In conclusion, this is the primary argument this study addresses, is the suffering the AI/AN people endured through forced colonization and how it has led to high levels of health disparities in this population. However, the resiliency of this group has allowed the maintenance of their culture to serve as the key foundation in promoting a healthier lifestyle. TribalCrit and SCT work together to allow us to understand this argument; TribalCrit provides an understanding of the historical trauma of colonization as it relates to resiliency as well as how this has impacted the health of AI/AN people and SCT explains how cultural maintenance serves as the key foundation to securing a healthier lifestyle, which has been preserved through the resiliency of the AI/AN population. Together they provide the framework for the argument put forward in this study and with a path forward to decolonization.

## CHAPTER II

### LITERATURE REVIEW

#### Colonization of American Indians/Alaska Natives

The United States federal government holds a trust responsibility towards AI/ANs of federally recognized tribes through treaty agreements constituting a unique relationship between both parties (Goins, Schure, Crowder, Baldrige, Benson, & Aldrich, 2015). The trust responsibility obligates the federal government to perform the following duties for AI/AN communities: carry out the mandates of federal law and protect tribal treaty rights, lands, assets, and resources (Goins et al., 2015). However, since tribes have a singular legal status predating the U.S. constitution, federally recognized tribes possess tribal sovereignty (Lomawaima & McCarty, 2000; Goins et al., 2015). In the United States, tribal sovereignty means, “the inherent authority of indigenous tribes to govern themselves within the borders of the United States” (Goins et al., 2015, p. 8). Although tribes are recognized as sovereign nations, they are considered “*domestic dependent nation*” which limits their ability to maintain sole decision-making authority for their tribes.

In 1831, Chief Justice John Marshall defines the term “*domestic dependent nations*” and echoes this sentiment in the historic case, *Cherokee Nation v. Georgia* stating:

“They may, more correctly, perhaps, be denominated domestic dependent nations. They occupy a territory to which we assert a title independent of their will, which must take effect in point of possession, when their right of possession ceases. Meanwhile, they are

in a state of pupillage. Their relation to the United States resembles that of a ward to his guardian” (Johnson & Hamilton, 1995, p. 1253).

To address the recognition of tribal nations as “*domestic dependent nations*,” the federal government has established a number of laws to clarify relationships between federal, state, and tribal government (Goins et al., 2015). However, the established laws do not extinguish governmental authority completely, resulting in limitations upon self-determination of tribal decision-making. For example, treaty agreements “agreed” to between the federal government and tribes consist of 326 Indian land areas combining for a total of over fifty-six million acres that are held in trust administered as federal Indian reservations (Phipps, 2016). Tribal lands held in trust refers to the practice of the federal government serving as trustee of tribal lands in which they possess a fiduciary responsibility to manage Indian lands for the benefit of the tribe (Mullen & Fastner, 2017). Essentially, this means tribes do not have the authority to sell the land without the consent of the federal government (Mullen & Fastner, 2017). In addition, individuals who were allotted trust land did not hold the title to their land (Mullen & Fastner, 2017) which resulted in limiting their ability to utilize their land to provide food and/or resources for their families or communities. It is important to note, even though tribes possess sovereignty status, the federal government still holds authority or guardianship over them much in the same way a parent has guardianship over their minor child.

### **Assimilation of American Indian/Alaska Native People**

Throughout history, over 600 treaties and agreements were entered into between colonist and tribal nations (Duran, Duran, Yellow Horse Brave Heart, & Yellow Horse-Davis, 1998). Often times, unfair practices coerced tribes into signing treaties written in English with only a thumbprint resulting in mass losses of land among many tribes (Yellow-Horse-Davis, 1994;

Duran et al., 1998). Since the U.S. was expanding, tribes would continue to experience major changes and losses through treaties, war, genocide, and assimilation.

The Invasion War Period represented a time in which the U.S. government exercised its plenary power over tribes and carried out a policy of extermination in military force style for AI/ANs who refused to leave their traditional homelands (Duran, et al., 1998; Lomawaima, 2000). To support the “white man’s” claim on land secured through guns and steel, the Indian Removal Act was passed in 1830 by Congress to enforce the relocation of Eastern tribes to west of the Mississippi River (Hendrix, 2001; Braun & La Counte, 2015). The enormity of losses the tribes were experiencing at this time was only beginning.

In addition to the massacres of the AI/AN population through war, intentional spreading of foreign disease and destruction of AI/AN resources resulted in many deaths of AI/AN people. For example, General Amherst wrote, “You will do well to inoculate the Indians by means of blankets as well as to try every other method that can serve to extirpate this execrable race” (Weslager, 1996, p. 245; Dapice, 2006, p. 252). At this time the “scorched-earth policy” resulted in the burning of Indian crops and villages (Dapice, 2006). To ensure the denial of sustenance, General Sheridan organized the extermination of 60 million buffalo knowing this would be detrimental to the Plains Tribes (Dapice, 2006). AI/ANs suffered through many dire experiences including massacres, “redskins” cash bounty offers, killed for sport, and continuing forced removals, which led to illness and death due to complete extermination appeals (Dapice, 2006).

Efforts to assimilate the AI/AN population began after the end of the wars in 1880 and with the conclusion of the massacre of Wounded Knee in 1890 (DeJong, 2007). At this time, the sequestration of AI/AN people onto reservations was complete, allowing for Congress to begin their great “Indian” education experiment led by Captain Richard Henry Pratt (DeJong, 2007).

Pratt was considered a “friend of the Indians” and did not share the view of most in exterminating this population completely, but was instead a staunch assimilationist who advocated for assimilation through education expressing this sentiment, “Kill the Indian in him, and save the man” (Lajimodiere, 2012).

In order for the Indian children to suppress their cultural identities and traditional ways, Pratt planned to remove the children from their families at an early age only to return home when they were young adults (Smith 2004; Jacobs 2006). As a result, children were relocated far from their tribal homes (Braun & LaCounte, 2015). When they arrived in boarding school, Indian children were not allowed to speak their language or practice their traditional ways (Jacobs, 2006). In addition, their traditional clothing was burned and their hair was cut short (Braun & LaCounte, 2015). The threat of corporal punishment, ostracism, and invocation was presented if children disobeyed by engaging in any activities that would impede the progress of colonizing their identities (Jacobs, 2006). Military subjugation was used to ensure cultural assimilation into dominate society (Edwards & Patchell, 2009). However, the education provided to Indian children was menial and focused on working-class skilled labor for subservient positions to benefit society (Edwards & Patchell, 2009). Educational programs were based on industrial and agriculture skills training with slight academic instruction with the idea that Native American children would never advance beyond the lower class of American society (Clarke Historical Library, 2009; Edwards & Patchell, 2009).

The devastation of the boarding school era continued to impact AI/AN families and tribal communities at the end of the 19<sup>th</sup> and beginning of the 20<sup>th</sup> century. AI/AN parents were lonesome for their children who had been forcibly removed from them; however, if they refused to send their children to boarding school, threats of withholding their rations were made by the

government (Jacobs, 2006). Both the parents and children were suffering with similar yet different struggles. Indian children were experiencing brutal treatment and the risk of death due to the very unhealthy physical environment they were exposed to while attending boarding school which included being overworked, underfed, overcrowded, and the uncontrollable spread of diseases (DeJong, 2007). Diseases such as tuberculosis, trachoma, measles, pneumonia, and influenza spread among the children leading to a significant amount of fatal cases (DeJong, 2007). Although attempts were made to improve conditions in boarding schools, however, the poor health continued which hindered the progress of overall assimilation of the AI/AN population (DeJong, 2007).

AI/AN people continued to endure unfair practices being carried out at their expense. For example, AI/AN people lost close to 90 million acres of property causing widespread poverty through self-serving federal policies that forced the sale of land owned by AI/ANs (Garrett & Pichette, 2000; Moghaddam, Mompter & Fong, 2015). In addition, in the 1950's and 1960's a campaign to relocate AI/ANs to urban cities promising jobs and financial success ended in temporary jobs, insufficient financial, family, cultural, and vocational support in the large cities unfamiliar to this population at the time (Crofoot et al., 2008; Moghaddam et al., 2015).

The period of colonization and assimilation forced AI/AN people to endure a great deal of loss culturally, physically, mentally, and emotionally resulting in feelings of hopelessness. By the last century, the land, food, and Native American family structure were gone thus ushering in a change for the worse in health outcomes (Edwards & Patchell, 2009). Although on November 4, 1988, President Ronald Reagan signed the Genocide Convention Implementation Act of 1987 recognizing the crime of genocide, the United States has yet to acknowledge their responsibility in the treatment of AI/AN people (Grandbois, Warne, & Eschiti, 2012). Therefore, it is



unsurprising these historical acts continue to affect this population today. The impact of federal and state policies of termination, removal, and assimilation succeeded in AI/AN people becoming worse off than the rest of American society (Edwards & Patchell, 2009). All of these combined acts have led to the deterioration in the ability of AI/AN people to thrive (Mulcahy & Lunham-Armstrong, 1998; Moghaddam et al., 2015).

### **Historical Trauma**

The health and social well-being of this population continues to be affected by the injustices inflicted upon them since the first contact with European settlers (Duran, Firehammer, & Gonzalez, 2008; Walters et al., 2011). The AI/AN population has been the target of, “community massacres, genocidal policies, pandemics from the introduction of new diseases, forced relocation, forced removal of children through Indian boarding school policies, and prohibition of spiritual and cultural practices,” over many generations leading to ramifications for present families and communities (Stannard, 1992; Thornton, 1987; Evans-Campbell, 2008, p. 316) Past traumas endured by AI/ANs are believed to still affect present generations through intergenerational trauma. Intergenerational trauma transmission of trauma is, “from person to person or within communities and give us little insight into the relationship between historical and contemporary trauma responses in AI/AN communities” (Evans-Campbell, 2008, p. 316).

The traumas experienced by the AI/AN population over many generations have become known as historical trauma. Historical trauma is a term that has emerged in literature and is being used by AI/AN communities to, “make sense of and response to their traumatic histories” (Whitbeck, Adams, Hoyt, & Chen, 2004; Evans-Campbell, 2008, p. 317). Historical trauma;

“is conceptualized as a collective complex trauma inflicted on a group of people who share a specific group identity or affiliation—ethnicity, nationality, and religious

affiliation. It is the legacy of numerous traumatic events a community experiences over generations and encompasses the psychological and social responses to such events” (Brave Heart, 1999a, 1999b, 2000; Brave Heart & DeBruyn, 1998; Evans-Campbell, 2008, p. 320).

It also has been defined as, “an event or set of events perpetuated on a group of people (including their environment) who share a specific group identity (e.g., nationality, tribal affiliation, ethnicity, religious affiliation) with genocidal or ethnocidal intent (i.e., annihilation or disruption to traditional lifeways, culture, and identity)” (Walters et al., 2011, p. 181).

“Research into historical trauma and intergenerational effects has shown that the trauma can literally become embodied, manifesting as poor mental and physical health outcomes in descendant generations” (Kuzawa & Sweet, 2009; Walters et al., 2011, p. 183). Previous, “research theorizes that historical trauma might play a role in disease prevalence and health disparities” (Sotero, 2006, p. 94) and suggests that descendants of those who experienced historically traumatic events continue to emotionally identify with ancestral suffering (Brave Heart, 1999a, 1999b; Evans-Campbell, 2008). These historically traumatic events continue to affect present-day health, mental health, and identity of AI/AN individuals and tribal communities (Evans-Campbell, 2008). The accumulation of devastating acts lasting over several hundred years that began with European contact including genocide, epidemics of disease, war, and cultural destruction as well as forced relocation and assimilation is believed to have resulted in historical trauma among AIs (Brave Heart & DeBruyn, 1998; Thornton, 1987; Wiechelt & Gryczynski, 2011; Wiechelt, Gryczynski, Johnson, & Caldwell, 2012). “The disruption and decimation of economic systems, sustenance practices, spiritual practices, kinship networks, and family ties among Native groups stripped them of their culture, sources of self-worth, and

mechanisms for coping” (deVries, 1996; Salzman, 2001; Stamm, Stamm, Hudnall, & Higson-Smith, 2004; Wiechelt et al., 2012, p. 320). “This accumulated historical trauma manifests in a host of physical, social, and psychological problems” (Sotero, 2006; Walters et al., 2011; Wiechelt et al., 2012, p. 320). This is due to the everyday reminders that exist today that include: “impoverished living conditions on reservations, loss of language, loss and confusion regarding traditional beliefs and practices, and loss of traditional family systems” (Soto, Baezconde-Garbanati, Schwartz, & Unger, 2015, p. 65).

Research suggests that the land loss, cultural devastation, and a lack of access to healthy environments are linked to the devastatingly high rates of health disparities among AI/ANs across North America (Walters et. al., 2011). The AI/AN population has experienced direct and indirect attacks that have led to historical traumas that include the massacres of their people and destroying the buffalo to near extinction (Walters et. al., 2011). All of these combined traumas have led to poor health among this population due to the high rates of chronic and communicable diseases conjoined with inadequate living conditions, insufficient nutrition, and exposure to high levels of environmental contaminants (Barnes et al., 2010; Walters et. al., 2011). In fact, a concept in public health called historical trauma theory was developed that supports the idea that a higher prevalence of disease tends to exist in current generations even though the long term mass trauma had happened to previous generations (Sotero, 2006). Research and theories such as these provide strong evidence that the historical traumas the AI/AN population were subjected to spanning over many generations continues to affect the health of AI/ANs in the present day.

### **Health Disparities**

Since the arrival of the Europeans, the health of American Indian/Alaska Natives (AI/ANs) has been disproportionately affected due to the exposure of infectious diseases and

genocidal practices. By the 19<sup>th</sup> century, population estimates of indigenous people were reduced from 9 to 12 million people living in North America to less than 200,000 (Dobyns, 1966, Thornton, 1987; Warne & Lajimodiere, 2015). Reduction in populations of indigenous peoples could be attributed to warfare, genocide, and infectious disease (Thornton, 1987; Warne & Lajimodiere, 2015). Foreign infectious diseases such as measles, chicken pox, scarlet fever, influenza, cholera, and malaria were brought over by westerners (Braun & LaCounte, 2015). AI/AN people were very susceptible to contracting these new diseases since they had no immunity to these types of infections resulting in widespread epidemics leading to the deaths of many AI/AN people (Osorio, 2002; Young 1994; Braun & LaCounte, 2015).

Presently, the battle with disease continues for the AI/AN population. Although high rates of health disparities are well documented among this group, disparities have continued to increase over the past decade (Sequist, 2017; Stanley et al., 2017). In fact, social and economic conditions affect AI/AN elders' health and well-being at excessive rates when compared to the general population (Goins et al., 2015). The effects of these disparities are reflected by lower life expectancy estimated at 4.4 years for the AI/AN population when compared to the US general population (Indian Health Services, 2016; Stanley et al., 2017). Given the fact that the federal government holds a trust responsibility through treaty agreements to provide health care services to federally recognized tribes, it is a bit concerning that the level of health disparities is so high among this population (Roh et al., 2015, United States Commission on Civil Rights, 2004; Martin, Yurkovich, & Anderson, 2016). Furthermore, when compared to other groups, health researchers found that AI/ANs fare worst in most health categories (Mendenhall et al., 2010; Reid, Taylor-Moore, & Feron, 2014; Roh et al., 2015; United States Census Bureau, 2010; Martin et al., 2016). The consequences of poor health and shorter life expectancies among the

AI/AN population tends to be attributed to the following events: a history of colonization, poverty, malnutrition, poor hygiene, overcrowding, stress, inadequate education, cultural differences, and limited access to health care (Roberts, Jiles, Mokdad, Beckles, & Rios-Burrows, 2009; Martin et al., 2016; Indian Health Service 2015; Phipps, 2016).

The health care system implemented into tribal communities leaves a great deal to be desired. Due to treaty agreements the federal government is obligated to provide health care services to enrolled members of federally recognized tribes (Phipps, 2016). Throughout history, the government has struggled to fulfill this obligation. The U.S. War Department was the first appointed with the responsibility of health care services for AI/ANs in which they employed physicians to address the epidemics that included outbreaks of disease (Henderson, 1991; Johnston, 2002). Eventually, the responsibility was transferred to the Bureau of Indian Affairs who struggled to provide adequate health care to the AI/AN population. Although legislation was passed authorizing the availability of Indian medical services through the Snyder Act of 1921, research studies conducted on this population discovered poor health rates that attributed to high levels of mortality and morbidity (Johnston, 2002; Johnson & Rhoades, 2000; Henderson, 2010). Therefore, in 1955 responsibility of Indian health care exchanged hands again, this time to the Public Health Service who established the Indian Health Service (IHS) (Johnston, 2002). IHS was developed in the hopes of fulfilling the government's responsibility in providing health care services to the AI/AN population.

Today, IHS facilities provide services to over 2.2 million members; however, there are currently 5.2 million AI/ANs in the nation (National Congress of American Indians, 2015; Phipps, 2016; U.S. Census Bureau, 2012, 2013; Braun & LaCounte, 2015). IHS relies on discretionary funding appropriated by Congress each fiscal year (Phipps, 2016). The IHS budget

has increased over time; however, funding remains insufficient to meet health care needs since less than half of the AI/AN population has the option to access IHS services (Artiga, Arguello, & Duckett, 2013; Phipps, 2016; Morton, Garrett, Reid, & Wingard, 2008; Braun & LaCounte, 2015). Individuals who tend to live out of the contract area may not have the opportunity to access IHS services. It is important to note, studies show that AI/ANs tend to have less insurance coverage, worse health care access, and less service use when compared to non-AI/ANs (Zuckerman, Haley, Roubideaux, & Lillie-Blanton, 2004; Barnes, Adams, & Powell-Griner, 2010; Kim, Bryant, Goins, Worley, & Chiriboga, 2012). In addition, the U.S. Census does not recognize IHS as health insurance coverage; therefore, AI/ANs who rely solely on IHS are classified as uninsured (Phipps, 2016). This may result in this population lacking access to health care when services are required outside of IHS facilities.

Considering the lack of initiative by the federal government in their willingness to provide sufficient health care to AI/AN people, it should come as no surprise that this population is at a disadvantage health-wise. For example, older AI/ANs are at risk for poorer physical health (Chapleski, Lichtenberg, Dwyer, Youngrade, & Tasai, 1997; Denny, Holtzman, Goins, & Croft, 2002; Fuller-Thomson & Minkler, 2005; Goins et al., 2007, Goins & Pilkerton, 2010, Satter, Wallace, Garcia, & Smith, 2010; Kim et al., 2012), higher rates of chronic conditions (Goins & Pilkerton, 2010; Kim et al., 2012), increased risk of developing comorbidities from disease (Chapleski et al., 1997; Kim et al., 2012), and higher disabilities than non-Hispanic Whites (Goins, Moss, Buchwald, & Guralnik, 2007; Satter et al., 2010; Kim et al., 2012). In addition, older AI/ANs tend to experience a lower socioeconomic status when compared to non-Hispanic Whites in demographic categories that include lower educational attainment, lower household income, greater poverty, and less insurance coverage (Kim et al., 2012).

High rates of chronic conditions in this population can be attributed to a history of colonization that has inflicted social and physical suffering, traumatic memory, community destruction, and nutrition trauma (Roubideaux & Acton, 2001; Ferreira, 2006; Korn & Ryser, 2006; Henderson, 2010). The aftermath of broken promises from the government and the continuing effects of colonization imposed upon this population perpetuates suffering in the form of health disparities. However, AI/AN people have remained resilient in continuing their traditional cultural practices, which has served as a protective factor for the health of this population.

### **Traditional Cultural Practices**

During the colonization and assimilation periods, Indigenous people were forbidden from participating in their cultural and traditional practices. In fact, the federal government outlawed most of these practices, and engaging in any form of these traditions often times led to dire consequences. However, AI/AN people are a resilient group and held on to their traditions passing them down to future generations allowing them to connect to their cultural identity by participating in their cultural activities. Traditional practices vary among tribes; however, examples of these practices that are common to most AI/ANs include powwows, sweat lodge ceremonies, sun dances, smudging, and preparing and consuming culturally based traditional foods.

#### **Powwows**

The historical roots of powwows suggest they were performed for special occasions including preparations for and return from war, hunting and spiritual celebrations and healing ceremonies conducted through tribal dances (Sanchez, 2001). Tribal dance became a powerful symbol of Indian identity and continues to be celebrated through intertribal powwows (Axtel &

Aragon, 1997; Snake, 1996; Young Bear & Theisz, 1994; Sanchez, 2001). Today, they represent a celebration of tribal customs and cultural connectedness through the expression of native song and dance bringing tribal and non-tribal communities together (Wright et al., 2011; Schweigman et al., 2011). At the center of the powwow is the drum which is considered to be the heart of AI/AN people (Cronk, 1987; Sanchez, 2001).

The traditional activities performed during the powwow assist in unifying the participants and attendees. The powwow is a spiritual celebration of community and harmony, often times being open to the public to provide an opportunity for intercultural relations between AI/ANs and non-AI/ANs (Sanchez, 2001). It also provides the opportunity for AI/ANs to learn about their traditions and connect to their culture (Sanchez, 2001).

### **Sweat Lodge Ceremony**

The sweat lodge ceremony is described as a holistic experience providing traditional purification through traditional medicine practices (Walkingstick & Osborne, 1995; Wilson, 2003; Schweigman et al., 2011). The cultural activities performed in the enclosed space with heated rocks meant to produce heat and steam consist of traditional singing, prayer, counseling, and sharing (Mails, 1978; Schweigman et al., 2011).

The sweat lodge is recognized as possessing healing properties for the body, mind, emotion, and spirit (Aaland, 1978; Royal Commission on Aboriginal Peoples [RCAP], 1996; Smith, 2005; Walkingstick & Osborne, 1995; Schiff & Moore, 2006). Furthermore, other observations have reported that participation in the sweat lodge ceremony led to the improvement in emotional, physical, cognitive, and social well-being (Schiff & Moore, 2006). At the conclusion of the ceremony, Schiff & Moore (2006) describe a respectful exist:



When participants leave the sweat lodge ceremony they are reminded to say “all my relations” as an affirmation of the relationship that humans share with all aspects of creation: living things (such as two-legged and four-legged creatures, those that live in the waters, and plants that grow in all places), the wind, the sun, the waters, all inanimate objects that are part of creation (such as the rocks, the earth, and the mountains), and the spirit world which many Indigenous people acknowledge co-exists with the physical world. Along with this connection comes the responsibility to take care of and respect all creations (p. 59).

### **Sun Dance**

The Sun Dance was a religious ceremony that originated in the eighteenth century among the Plains Algonquians (Shrubsole, 2011). In the eighteenth and nineteenth centuries the ceremony was practiced by approximately twenty tribes in United States and Canada including the Arapaho, Ankara, Assiniboine, Blackfeet, Cheyenne, Comanche, Crow, Eastern Dakota, Gros Ventre, Hidatsa, Kiowa, Lakota, Mandan, Ponca, Plains Cree, Plains Ojibway, Sarsi, Shoshone and Ute (Hallowell, 2010; Hirschfelder & Molin, 2001; Shrubsole, 2011). Often times this ceremony was performed in the late spring or early summer (Lowie, 1954; Spier, 1921; Lycett, 2014). The focus of the ceremony was on the well-being of the community (Shrubsole, 2011). Lycett (2014) describes the ceremony in full detail as follows:

The ceremony is initiated by an individual member of the tribe and preliminary ceremonies are undertaken. This can include preparation of regalia and other items to be used in the ceremony, and the rehearsal of songs. A forked tree used as a “center pole” is sought and felled, around which a structure is constructed. During this process the center pole is potentially the subject of specific treatment (e.g., treated as if it were an “enemy”

felled in battle). A bundle of brushwood along with effigies or other ceremonial items is placed in the fork of a branch at the top of the center pole prior to it being raised in position. Thereafter, an altar may be built within the structure that is constructed. Several days of dancing and singing are undertaken, along with the observance and performance of other customs and ceremonies. The “self-torture” element via skin piercing that made the ceremony globally famous was given particular emphasis in only certain groups (most notably Teton Dakota), although self-sacrifice in the form of thirsting and fasting were common elements (Spier, 1921; Liberty 1980; p. 2).

The Sun Dance represents a celebration of life recognizes the connection of the Earth, universe, and humans while giving thanks and praying for healing (Hallowell, 2010). It represents a practice that strengthens the AI/AN population’s connection to their culture and overall well-being.

### **Smudging**

The smudging ceremony is a purification process that involves asking the spirit world to cleanse the mind, body, spirit, and emotions of negative energies through the burning of sage (Watts, 2016). It is a process of, “lighting a bundle of aromatic plant materials such as tobacco, sage, cedar, or sweet grass and letting the resulting smoke waft over and around people and sacred sites for ritual or therapeutic purposes (Guedon, 2000, p. 42-43). The smoke from burning the plants provide healing properties (Guedon, 2000). The smudging ceremony is not limited to any one tribe, but is practiced by many (Watts, 2016).

### **Traditional Foods**

Foods consumed in the pre-colonization period by the AI/AN population were healthy and served many purposes. For Native people, food and farming were not only considered a

form of sustenance, but it was a part of their culture (Patchell & Edwards, 2014). For generations, Native people cared and depended on the plants and animals, using them for food, medicine, ceremonies, community and health (Patchell & Edwards, 2014; Lynn et al., 2013). Among the Native population, everything was based on a balanced lifestyle with nature, which included balancing their health through food choices, hygiene, practices, medicine, and their lives (Patchell & Edwards, 2013). Traditional foods help to maintain a healthy existence for the AI/AN population. These foods were gathered through fishing, hunting, harvesting, and agriculture (Phillips et al., 2014). Traditional foods consumed in the pre-colonization era included buffalo, elk, rabbit, snake, fish, berries, fruits, root vegetables, lean meats, vegetables, nuts, and teas with flavors of wild peppermint, juniper, rosehips, and wild cherries (McLaughlin, 2010). All of these foods were consumed and used on a regular basis, which assisted this population in being disease free, strong, and healthy (Patchell & Edwards, 2014). In AI/AN cultures, food is considered to be a cultural activity that helps to define who people are and their relationships in tribal communities (Lipski, 2010; Patchell & Edward, 2014).

### **Culture is Medicine**

Culture is a part of our being and soul, if it is oppressed healing is required to restore the connection (Duran et al., 2008). Many generations of AI/AN people have experienced oppression through assimilated efforts impressed upon them by the federal government. In order to heal these wounds, the AI/AN population must connect with their culture since it is viewed as medicine that possesses protective and therapeutic power promoting resilience and recovery from traumatic events (Bassett et al., 2012). Language, traditional foods, ceremonies, traditional values, spiritual beliefs, history, stories, songs, traditional plants, and canoe journeys all can serve as cultural healing practices (Bassett et al., 2012). These cultural practices were almost

lost due to forced acculturation which means gaining cultural values from one group while losing your own cultural characteristics (Moghaddam et al., 2015). However, enculturation has continued to thrive as AI/AN people are embracing their own culture by learning their traditional language and engaging in cultural celebrations (Moghaddam et al., 2015). Furthermore, research studies have viewed reconnections to heritage, spirituality, family, and community support as an important part of healing and recovering among this population (Gone, 2007, 2009; Gray & Nye, 2001; Manson, 1996; Stone, Whitbeck, Chen, Johnson, & Olson, 2006; Tsosie et al., 2011).

Many studies have shown the benefits of traditional practices in health care treatment, addiction program models, and even for chronic pain management administered by traditional healers (Legha, & Novins, 2012). Other cultural practices used in the healing of AI/AN people include naming ceremonies, storytelling, drum and singing, preparing traditional meals, talking circles, sweat lodges, and sun dances (Legha & Novins, 2012). These cultural treatment interventions do not separate the mind and body, but address the connection of the two by recognizing that all parts of the person need to be in balance in order to achieve wellbeing (Rowan et al., 2014). In order to correct the imbalance that was caused by cultural disruption, loss due to colonization, forced relocation, attacks, and prohibition of cultural and spiritual practices we must entertain the idea of revitalizing cultural practices that promote positive health outcomes (Carlson et al., 2017). Engaging in cultural and traditional practices may serve as the key to preventing and eliminating chronic conditions among the AI/AN population.

In conclusion, AI/AN people experienced the practice of colonization leading to a history of assimilation practices resulting in historical trauma bringing on health and social disparities. The resiliency of this population has proved to be strong in that they maintained their cultural practices that serve as medicine for them. The literature review provides a strong foundation to

explain how all of the experiences by this group has led to the health issues today and how culture had played a role in maintaining a healthy status for this population. However, there is a gap in the literature when determining if engaging in cultural practices is associated with health outcomes among AI/AN elders; this study will address this gap.

## **CHAPTER III**

### **METHODOLOGY**

The purpose of this study is to determine if there is an association between cultural participation and health outcomes among AI/AN elders. This chapter describes the procedures and methods used in this study, which include a description of the sample population, survey design, research design, research process, Institutional Review Board (IRB), data collection, research questions, hypotheses, and data analysis.

This chapter provides a description detailing a research model specific to working with tribal communities. The research process for this project allowed the tribes to gain control and ownership of their individual tribal data. In collaboration with the National Resource Center on Native American Aging (NRCNAA), the tribes administered surveys, collected data, and utilized the results for their Title VI grant application requirements. This process allowed the NRCNAA to assist in building tribal capacity in the area of research for participating tribes. Furthermore, this project offers a decolonized approach to the western research model allowing the tribes to navigate and lead the process under the guidance and support of the NRCNAA.

This study addresses four research questions: (1) What are the demographics of the AI/AN elder population that participate and do not participate in cultural practices that include traditional food, music, and customs? (2) Is participation in cultural practices that include traditional food, music, and customs associated with health status among AI/AN elders? (3) Is

participating in cultural practices that include traditional food, music, and customs associated with the diagnosis of chronic disease among AI/AN elders? (4) Is participating in cultural practices that include traditional food, music, and customs associated with nutritional health?

Research question 1 described the characteristics of the sample population. Research questions 2, 3, and 4 tested if there was an association between cultural participation and health outcomes among AI/AN elders. The health outcomes included self-perceived health status for research question 2, diagnosis of chronic disease for research question 3, and nutritional health for research question 4.

### **Participants**

The National Resource Center on Native American Aging (NRCNAA) was originally funded by Administration for Community Living (ACL), through Title VI programs for AI/AN elders, under the United States Department of Health and Human Services to construct a survey instrument to utilize as a needs assessment tool designed for the Native elder population. This project is intended to aid the research process and collect data to aid tribes in building nutrition, caregiving, and long-term care infrastructure within tribal communities. The NRCNAA collaborates with tribal communities throughout the nation to conduct this needs assessment for Native elders. A survey cycle consists of three years and coincides with the renewal schedule for ACL Title VI Native elder nutrition and caregiving grants. Currently, six cycles have been completed over a span of 18 years resulting in the collection of 89,436 surveys as well as the participation of over 300 tribes, villages, homesteads, and consortiums. The data collected for the needs assessment includes the following survey cycles: (1) Cycle I resulted in the participation of 190 tribes and 9,403 surveys collected; (2) Cycle II ended with 342 tribes participating and 10,743 surveys collected; (3) Cycle III found 268 tribes participating and

15,565 surveys collected; (4) Cycle IV resulted in 234 tribes participating with 18,089 surveys collected; (5) Cycle V ended with 262 tribes participating and 17,049 surveys collected; and (6) Cycle VI concluded with the participation of 267 tribes and 18,134 surveys collected. The statistical reports produced from this data have assisted in strengthening grant proposals, long-term care planning, and advocating for efforts to improve health and social issues among the Native elder population.

The survey process begins with a tribe contacting the NRCNAA to request surveys for participation in the current cycle occurring at that time. The tribe provides the number of Native elders they service through the Title VI program. This number is used to compute a good random sample number, which is calculated using a statistical formula that is utilized to determine a generalizable sample number for the population. This is the suggested number of surveys that need to be collected in order to represent a generalized sample of their tribal elder population. The tribal Title VI offices are asked to collect a randomized sample; however, depending on the Native elder population size it may not be feasible to collect surveys using this process.

The next step includes sending the surveys to the Title VI office where trained staff or volunteers in the program administer the survey to the Native elders in the tribal community. In addition to the surveys, four other documents are sent to the tribes including a “How to Get Started” instruction manual, “Interviewing Elders Guide,” a sample resolution explaining the partnership between the NRCNAA and participating tribe as well as the project, purpose of the project, and the agreement entered into with the NRCNAA, and a general template to assist in using the data to fill out their Title VI grant application.



Each participating tribe must gain permission to participate through a tribal resolution in order for the completed surveys to be processed by the NRCNAA. Once the surveys are collected the tribe sends them to the NRCNAA for processing. The NRCNAA research staff uses an optical scanner to process the surveys. When the scanning of the surveys is completed the data file is then converted to an SPSS file. In this form, the data is cleaned and recoded prior to analysis. For this study, SPSS version 23 was used for data analysis. When these steps were completed descriptive frequencies are conducted and sent to the participating tribe.

At the conclusion of analysis for each individual tribe a new aggregated file is created which includes the summation of all participating tribes. This data file is the accumulation of all the data from the participating tribes for that particular cycle. At the conclusion of this process, the tribes are sent a comparison sheet with data from their individual tribe, tribal aggregated data, and national data. This allows them to compare their tribe's results to the tribal aggregate and national data to determine how they fare in terms of health and social disparities among other tribes and the nation.

As mentioned above, the project required permission through a tribal resolution from each participating tribe. In addition, permission was granted from the University of North Dakota Institution Review Board (IRB) to conduct this work under the project title "Health and Social Needs Assessment of Native American Elders (IRB-200712-139). This is a continuing project that is reviewed each year for annual renewal. In addition, the current study for this dissertation gained IRB approval (IRB-201710-093) under the project title, "The Effects of Cultural Participation on Health Outcomes among American Indian/Alaska Native Elders."

The NRCNAA offers technical assistance to participating tribes who need help in completing the collection of their surveys. This is usually performed in-person, through the

interview guide, online, webinars, or by telephone. The in-person training is normally conducted by request, annually at the Title VI Training and Technical Assistance Conference, and through cluster trainings. During the collection of data for cycle VI (2014-2017), the trainings were offered through five presentations performed at the annual Title VI conferences, one online training, and one cluster training. These trainings generally provide information about how to get started, how to administer a survey with their Native elders, required permissions, the data analysis process, benefits of participating, results they will receive, and how to use the data for additional opportunities. Furthermore, the NRCNAA provides a toll-free number to contact the NRCNAA office for any technical assistance required by the tribal Title VI offices during the process.

The data utilized for analysis in this study was acquired from cycle VI, the *“Identifying Our Needs: A Survey of Elders VI”* which included Native elders 55 years and older. The data was collected in the time span of April 1, 2014 to March 31, 2017. The survey was conducted by the NRCNAA in collaboration with tribes, villages, and homesteads within the U.S. The total number of participating AI/AN elders for this cycle was N=18,134 respondents, 164 sites, and 267 tribes with an estimated response rate of 60 percent. In addition, there was representation of tribes from 11 out of 12 Indian Health Service (IHS) regions, 9 out of 10 Department of Health and Human Services regions, and 28 out of 50 states.

### **Instrument**

The survey instrument used in this study consists of self-reported information related to general health status, activities of daily living (ADLs), screening, vision, hearing, & dental, memory & disability, health care access, tobacco & alcohol usage, weight & nutrition, social support/housing, social functioning, and demographics. The questions used in this study were

health status, diagnosis of chronic disease, nutritional health, participation in cultural practices, and demographic variables that include gender, age, marital status, personal annual income, employment, and education.

### **Data Analysis**

#### **1. What are the demographics of the AI/AN elder population that participate and do not participate in cultural practices that include traditional food, music, and customs?**

Descriptive statistics for this study included frequency numbers and percentages for each variable, which are represented in table format. The statistics analysis conducted for this study reflected the characteristics and demographics of this population in the study.

#### **2. Is participation in cultural practices that include traditional food, music, and customs associated with health status among AI/AN elders?**

A binary logistics regression analysis was conducted to test research question two. The dependent variable was self-perceived health status which is a self-reported measure that asked the participant, “Would you say your health in general is excellent, very good, good, fair, or poor?” which included the options of excellent, very good, good, fair, and poor. This variable was converted into a binary variable combining excellent, very good, and good to represent “good health status” and fair and poor to represent “poor health status.”

The independent variables for research question two included participation in cultural practices, marital status, income, employment, education, gender, and age. The independent variable participation in cultural practices asks the participant, “Do you participate in cultural practices that include traditional food, music, and customs?” The options for this question included all of the time, most of the time, a good bit of the time, some of the time, a little of the time, and none of the time. This variable was converted into a binary variable combining all of

the time, most of the time, a good bit of the time, and some of the time to represent “participates in cultural practices” and a little of the time and none of the time represented “do not participate in cultural practices.”

The independent variable of marital status asked the participant to identify their “current marital status”, the options included married or living with partner, single/never married, divorced or separated, and widowed. A binary variable was created by combining single/never married, divorced or separated, and widowed as “not married or living with partner” and “married or living with partner” remained the same.

The employment variable asked the participants, “Have you been employed full or part-time during the past 12 months?” The respondents were provided options that included full time, part-time, or no. A binary variable was created for this variable by combining full and part-time to represent “employed” and no represented “unemployed.”

The education variable asked the participant, “What is the highest grade or year of school you completed?” The options included a scale of number ranging from 0 to 17, with never attended or kindergarten only represented by “0”, elementary ranged from “1 to 8”, high school ranged from “9 to 12”, college/technical school ranged from “13 to 16”, and graduate/professional school was represented by “17.” A categorical variable was created combining “0 to 11” as no education or less than a high school diploma, “12” represented high school graduate, and “13 to 17” represented education beyond high school.

The income variable asked the participants, “What is your personal annual income?” The participants were provided the options of “Under \$5000”, “\$5,000 to \$6,999”, “\$7,000 to \$9,999”, “\$10,000 to \$14,999”, “\$15,000 to \$19,999”, “\$20,000 to \$24,999”, “\$25,000 to \$34,999”, “\$35,000 to \$49,999”, and “\$50,000 or more.” A categorical variable was created and

the income ranges of “Under \$5,000, \$5,000 to \$6,999, \$7,000 to \$9,999, and \$10,000 to \$14,999” were combined for <\$15,000 represents “low income”; income ranges of “\$15,000 to \$19,999, \$20,000 to \$24,999, \$25,000 to \$34,999, and \$35,000 to \$49,999” were combined for \$15,000 to \$49,999 range to represent “middle income”; and “\$50,000 or more” was considered “high income” for this study.

The age variables asked the participants to write in their age. This variable was converted into a categorical variable, which represented age categories that included 55 to 64 years, 65 to 74 years, and 75 years and older. The independent variable gender asked the participant to identify whether they were male or female; this variable remained a binary variable.

The above mentioned independent variables will be tested against the dependent variable of self-perceived health status to determine if there is an association between participating in cultural practices and self-perceived health status to answer research question number two.

I hypothesized that the odds of an AI/AN elder having a good health status will be higher for someone who participates in cultural practices compared to an AI/AN elder that does not participate in cultural practices. The rationale for this hypothesis is that, “cultural engagement can lead to the development of social networks that can improve health through social support and dissemination of social health norms” (Thiel, 2015, p. 1). In addition, “engaging in cultural activities can directly impact health through palliative coping or substituting health-compromising behaviors” (Thiel, 2015, p. 1). Meaning that engaging in cultural activities could serve as a buffer to engaging in negative behaviors that lead to a decline in age-related issues in health and cognitive skills (Thiel, 2015).

It has been reported in many studies that cultural activities and educational attainment, cognitive skills, social capital and quality of life have a positive relationship. (DiMaggio, 1982; Hille & Schupp, 2015; Jeannotte, 2003; Kim & Kim, 2009). A positive association of cultural engagement with health status has been shown among non-AI/AN populations in previous research studies (Thiel, 2015). Cultural-event attendance and perceived health have had positive associations among various populations in many empirical studies when utilizing individual survey data (Cuypers et al., 2012; Johansson, Konlaan, & Bygren, 2001; Khawaja & Mowafi, 2006; Renton et al., 2012; Wilkinson, Waters, Bygren, & Tarlov, 2007; Thiel, 2015). Engaging in cultural activities may assist in promoting healthy behaviors, which is rationalized by the SCT framework.

SCT, one of the frameworks utilized in this study, has three modes of agencies which include: direct personal agency; proxy agency which relies on others to act on the demands of someone to secure desired outcomes; and collective agency which is exercised through the action of the group (Bandura, 2002). “Through these modes of agency, they have to pool their knowledge, skills, and resources, provide mutual support, form alliances, and work together to secure what they cannot accomplish on their own” (Bandura, 2002, p. 270). AI/ANs who seek to participate in their culture, but do not have the resources or knowledge of how to begin practicing can rely on others who have the knowledge and the resources within the community to begin practicing their culture to seek positive health outcomes as a result. They would have the social support of a group that will share knowledge and support each other in their goals of participating in their cultural practices which will lead to improving their health status.

In addition, the theoretical framework of TribalCrit provides us with tenet seven, which Brayboy (2005) defines as, “tribal philosophies, beliefs, customs, traditions, and visions for the

future are central to understanding the lived realities of Indigenous peoples, but they also illustrate the differences and adaptability among individuals and groups” (p. 429). Using this tenet helps to explain how cultural traditions play a role in the resiliency of the AI/AN population. The maintenance of their culture through resiliency has produced positive effects in which they are able to utilize their cultural practices to serve as protective factors against health issue. This maintenance and an application of SCT is a way for de-colonizing this population by engaging in their cultural activities, which may promote a good health status.

### **3. Is participation in cultural practices that include traditional food, music, and customs associated with the diagnosis of chronic disease among AI/AN elders?**

A binary logistics regression analysis was conducted to test research question three. The dependent variable for this analysis was the diagnosis of chronic disease. The question for the diagnosis of chronic disease variable asked the participant, “Has a doctor ever told you that you had any of the following disease?” (Please mark all that apply). The participant was provided the options of arthritis, congestive heart failure, stroke, asthma, cataracts, high blood pressure, osteoporosis, depression, prostate cancer (for men only), colon/rectal cancer, lung cancer, breast cancer, cervical cancer (for women only), and diabetes with sub-options/questions that included, “do you take oral medication?”, “Do you take insulin?”, “Are you on dialysis?”, “was this only during a pregnancy? (for women only)”, and “are you a diabetic amputee?” A binary variable was created to represent whether the participant had been diagnosed with one or more of the disease options which will be represented by “Yes” or if they were not diagnosed with one or more of the disease options in the survey which will be represented by “No.”

The independent variables for research question three were the same as research question two which included participation in cultural practices, marital status, income, employment,

education, gender, and age. The independent variable participation in cultural practices asks the participant, “Do you participate in cultural practices that include traditional food, music, and customs?” The options for this question included all of the time, most of the time, a good bit of the time, some of the time, a little of the time, and none of the time. This variable was converted into a binary variable combining all of the time, most of the time, a good bit of the time, and some of the time to represent “participates in cultural practices” and a little of the time and none of the time represented “do not participate in cultural practices.”

The independent variable of marital status asked the participant to identify their “current marital status”, the options included married or living with partner, single/never married, divorced or separated, and widowed. A binary variable will be created by combining single/never married, divorced or separated, and widowed as “not married or living with partner” and “married or living with partner” remained the same.

The employment variable asked the participants, “Have you been employed full or part-time during the past 12 months?” The respondents were provided options that included full time, part-time, or no. A binary variable was created for this variable by combining full and part-time to represent “employed” and no represented “unemployed.”

The education variable asked the participant, “What is the highest grade or year of school you completed?” The options included a scale of number ranging from 0 to 17, with never attended or kindergarten only represented by “0”, elementary ranged from “1 to 8”, high school ranged from “9 to 12”, college/technical school ranged from “13 to 16”, and graduate/professional school was represented by “17.” A categorical variable was created combining “0 to 11” as no education or less than a high school diploma, “12” represented high school graduate, and “13 to 17” represented education beyond high school.



The income variable asked the participants, “What is your personal annual income?” The participants were provided the options of “Under \$5000”, “\$5,000 to \$6,999”, “\$7,000 to \$9,999”, “\$10,000 to \$14,999”, “\$15,000 to \$19,999”, “\$20,000 to \$24,999”, “\$25,000 to \$34,999”, “\$35,000 to \$49,999”, and “\$50,000 or more.” A categorical variable was created and the income ranges of “Under \$5,000, \$5,000 to \$6,999, \$7,000 to \$9,999, and \$10,000 to \$14,999” were combined for <\$15,000 represents “low income”; income ranges of “\$15,000 to \$19,999, \$20,000 to \$24,999, \$25,000 to \$34,999, and \$35,000 to \$49,999” were combined for \$15,000 to \$49,999 range to represent “middle income”; and “\$50,000 or more” was considered “high income” for this study.

The age variables asked the participants write in their age. This variable was converted into a categorical variable, which represented age categories that included 55 to 64 years, 65 to 74 years, and 75 years and older. The independent variable gender asked the participant to identify whether they were male or female; this variable remained a binary variable.

The above mentioned independent variables were tested against the dependent variable of diagnosis of chronic disease to determine if there is an association between participating in cultural practices and diagnosis of chronic disease to answer research question number three.

I hypothesized that the odds of an AI/AN elder being diagnosed with a chronic disease will be lower for someone who participates in cultural practices compared to an AI/AN elder that does not participate in cultural practices. The rationale for this hypothesis is that AI/AN people culture and traditions involved traditional work activities that consisted of farming, husking corn, fishing, canoeing, hunting buffalo, picking berries, and tanning hides (McLaughlin, 2010). In addition, they frequently engaged in strenuous physical activity such as native dances and powwows (McLaughlin, 2010). It has been estimated that AI/AN people expended an average of

4,000 calories a day before they were forced onto reservations (McLaughlin, 2010).

Furthermore, the traditional foods consisted of a healthier diet for this population. These foods consisted of wild game (buffalo, elk, rabbit, snake, and fish), berries, other fruits and root vegetables (raw cooks, and dried), as well as soups made with meat and vegetables, nuts, and teas made from wild peppermint, juniper, rosehips, and wild cherries (McLaughlin, 2010).

AI/AN people were a hunter-gather society that were physically active and consumed a healthy diet. “Research shows that chronic diseases are nearly non-existent in modern-day hunter-gatherer societies” (Roberts & Barnard, 2005, p. 4). In addition, diet is a risk factor that plays a key role in development of chronic disease (Roberts & Barnard, 2005). Although diet is a risk factor, physical inactivity also plays a role and is being recognized as an increasingly important determinant of health, which has resulted from a lifestyle that is more sedentary (Roberts & Barnard, 2005). “There is overwhelming evidence that diet, smoking, alcohol use, and physical inactivity are important determinants of coronary artery disease (CAD) and other chronic disorders and that modifying these environmental influences can significantly impact the incidence of chronic disease” (Roberts & Barnard, 2005, p. 4). Therefore, if AI/AN elders participate in cultural practices that include traditional diets and traditional strenuous physical activities such as native dances and powwows, this will lead to lowering the chances of being diagnosed with a chronic disease among this population. In addition, “the construct of self-efficacy in the SCT framework is the confidence in one’s ability to take action and overcome barriers” (National Cancer Institute, 2005, p. 20). AI/AN people will feel more connected to their cultural identity by participating in their culture and will gain more confidence in themselves. This can lead to them feeling confident in participating in cultural practices which

will help them to engage in a healthy active lifestyle, which decrease the risk of being diagnosed with a chronic disease. They will have the belief in their ability to change their health outcomes.

In addition, tenet five in TribalCrit describes that, “the concepts of culture, knowledge, and power take on new meaning when examined through an Indigenous lens” (Brayboy, 2005, p. 429). Therefore, when viewing culture and knowledge through an Indigenous lens, AI/ANs have the power to use cultural traditions to reduce the diagnosis of chronic conditions. A study conducted from 2009 to 2010 which interviewed Native healers found that cultural identity was an important aspect that served as a protective factor for healing and involvement in Native culture assisted in recovery of some patients (Bassett et. al, 2012).

#### **4. Is participation in cultural practices that include traditional food, music, and customs associated with a positive nutritional health?**

A binary logistics regression analysis was conducted to test research question four. The dependent variable for this analysis was nutritional health. The questions for the variable nutritional health were a combination of questions related to nutritional screening asking the participants to identify the questions that apply to them.

A binary variable was created to identify whether the participant had good or poor nutritional health. The questions participants were asked to determine their risk for poor nutritional health included the following: I have an illness or condition that made me change the kind and/or amount of food I eat, I eat fewer than 2 meals per day, I eat few fruits or vegetables or milk products, I have 3 or more drinks of beer, liquor or wine almost every day, I have tooth or mouth problems that make it hard for me to eat, I don't always have enough money to buy the food I need, I eat alone most of the time, I take 3 or more different prescribed or over-the-counter drugs a day, without wanting to, I have lost or gained 10 pounds in the last 6 months, and I am

not always physically able to shop, cook and/or feed myself. If the participant identified one or more of the nutritional risks, they were identified to be at risk for poor nutritional health.

The nutritional screening assessment tool was utilized to determine if the participant was at risk for poor nutritional health. The Nutrition Screening Initiative (NSI) developed a self-assessment screening tool for older adults to identify their nutrition risk (Bernstein & Luggen, 2010). The screening assessment assigns a number value to each question that the participant answers yes to and provides a table to identify whether the older adult is at a certain level of nutrition risk.

The number assignments are as follows: I eat alone most of the time and I take three or more different prescribed or over-the-counter drugs a day are assigned a value of “1”, I have an illness or condition that made me change the kind and/or amount of food I eat, I eat few fruits or vegetables, or milk products, I have three or more drinks of beer, liquor or wine almost every day, I have tooth or mouth problems that make it hard for me to eat, Without wanting to, I have lost or gained 10 pounds in the last 6 months and I am not always able to physically shop, cook and/or feed myself are assigned value of “2”, I eat fewer than two meals per day is assigned a value of “3” and I don’t always have enough money to buy the food I need is assigned a value of “4” (Bernstein & Luggen, 2010). The scores are then added with the categories as follows: a score of “0-2” is considered good, a score of “3-5” is considered “you are at moderate nutrition risk” and a score of “6 or more” is considered “you are at high nutrition risk” (Bernstein & Luggen, 2010).

A binary variable was then created combining the category of “you are at moderate nutrition risk and you are at high nutrition risk” to create the variable of poor nutritional health

and the category of good represented good nutritional health. The dependent variable of nutritional health was used to answer research question number four.

The independent variables for research question four were the same as research questions two and three, which included participation in cultural practices, marital status, income, employment, education, gender, and age. The independent variable participation in cultural practices asks the participant, “Do you participate in cultural practices that include traditional food, music, and customs?” The options for this question included all of the time, most of the time, a good bit of the time, some of the time, a little of the time, and none of the time. This variable was converted into a binary variable combining all of the time, most of the time, a good bit of the time, and some of the time to represent “participates in cultural practices” and a little of the time and none of the time represented “do not participate in cultural practices.”

The independent variable of marital status asked the participant to identify their “current marital status”, the options included married or living with partner, single/never married, divorced or separated, and widowed. A binary variable was created by combining single/never married, divorced or separated, and widowed as “not married or living with partner” and “married or living with partner” will remained the same.

The employment variable asked the participants, “Have you been employed full or part-time during the past 12 months?” The respondents were provided options that included full time, part-time, or no. A binary variable was created for this variable by combining full and part-time to represent “employed” and no will represent “unemployed.”

The education variable asked the participant, “What is the highest grade or year of school you completed?” The options included a scale of number ranging from 0 to 17, with never attended or kindergarten only represented by “0”, elementary ranged from “1 to 8”, high school

ranged from “9 to 12”, college/technical school ranged from “13 to 16”, and graduate/professional school was represented by “17.” A categorical variable was created combining “0 to 11” as no education or less than a high school diploma, “12” represented high school graduate, and “13 to 17” represented education beyond high school.

The income variable asked the participants, “What is your personal annual income?” The participants were provided the options of “Under \$5000”, “\$5,000 to \$6,999”, “\$7,000 to \$9,999”, “\$10,000 to \$14,999”, “\$15,000 to \$19,999”, “\$20,000 to \$24,999”, “\$25,000 to \$34,999”, “\$35,000 to \$49,999”, and “\$50,000 or more.” A categorical variable was created and the income ranges of “Under \$5,000, \$5,000 to \$6,999, \$7,000 to \$9,999, and \$10,000 to \$14,999” were combined for <\$15,000 represents “low income”; income ranges of “\$15,000 to \$19,999, \$20,000 to \$24,999, \$25,000 to \$34,999, and \$35,000 to \$49,999” were combined for \$15,000 to \$49,999 range to represent “middle income”; and “\$50,000 or more” was considered “high income” for this study.

The age variables asked the participants write in their age. This variable was converted into a categorical variable, which represented age categories that included 55 to 64 years, 65 to 74 years, and 75 years and older. The independent variable gender asked the participant to identify whether they were male or female; this variable remained a binary variable.

The above mentioned independent variables were tested against the dependent variable of nutritional health to determine if there is an association between participating in cultural practices and nutritional health to answer research question number four.

I hypothesized that the odds of an AI/AN elder possessing good nutritional health will be higher for someone who participates in cultural practices compared to an AI/AN elder that does not participate in cultural practices. The rationale for this hypothesis is that nutrition is vitally

important to maintaining a high quality of life and preventing chronic health problems (Bernstein & Luggen, 2010, p. 2). “Before exposure to a western diet, AI/AN people consumed foods such as maize, beans, and squash along with lean meats and/or seafood” (Yracheta et al., 2015, p. 815). These types of food allow for a more favorable health status compared to the westernized diet that was forced upon this group during the assimilation era. These foods consisted of a non-traditional American Indian diet that included foods with high fat, high sugars, low in whole grains, lacking fruits, and low fiber that are associated with increasing the risk of becoming obese and developing chronic diseases, such as diabetes (Yracheta et al., 2015). “Good nutrition is vital and can mean the difference between poor health and good health, or life and death” (Bernstein & Luggen, 2010, p. 137).

“Obesity is a chronic disease that can occur with poor nutrition. Overweight or obese people may not consume enough of the nutrients needed for good health” (Bernstein & Luggen, 2010, p. 254). “Obesity is associated with numerous diseases and problems, that include coronary heart disease, stroke, type 2 diabetes, hypertension, osteoarthritis, dyslipidemia, gallbladder disease, sleep disturbances and sleep apnea, some cancers, pain, depression, fatty liver disease, metabolic syndrome, and increased risk of death” (Bernstein & Luggen, 2010, p. 255). Therefore, practicing good nutrient and maintaining a healthy diet are imperative in lowering the risk of obesity which can lead to many chronic health conditions.

“A good health status is essential to adequate functioning and a sense of well-being in older adults” (Bernstein & Luggen, 2010, p. 255). “Older adults are at nutritional risk due to numerous factors, including poor dietary intake, chronic medical conditions, and a variety of physical, economic, and social factors” (Bernstein & Luggen, 2010, p. 279). “Good nutritional health is essential to physical and cognitive function, prevention or management of chronic

health conditions, and prevention of disability” (Sharkey, 2008, p. 210). “Poor nutritional health describes dietary intakes of adequate amounts of energy, protein, and individual or multiple micronutrients” (Sharkey, 2008, p. 210). “Homebound older adults are considered the most vulnerable for poor nutritional health; many are poor and experience persistent food insufficiency” (Sharkey, 2008, p. 210).

“Diet and nutrition are important indicators of health for a population” (Fialkowski, et. al., 2012, p. 295). AI/AN people have had a dramatic change in their health profiles since the first contact with European settlers (Fialkowski, et. al., 2012). One of the theories is that outside influences such as poverty, displacement, and a loss of connection to their traditional cultural context and inadequate healthcare were two of the culprits that have led to the negative outcomes on health for this group (Fialkowski, et. al., 2012). The current diets of AI/AN people are not meeting the recommendations for overall health (Fialkowski, et. al., 2012). Before the colonization of this group, the traditional diet consisted of very healthy foods such as corn, beans, squash, melons, mutton, goat, a variety of wild plants, game, and herbs which were eventually replaced with commodity foods that are not healthy foods to consume. The nutritional trauma brought upon the AI/AN people has had negative consequences to the overall health of this group. Therefore, if AI/ANs engage in cultural activities that consist of consuming their traditional foods, the result will be maintaining a good nutritional health status.

In the SCT framework, “the construct observational learning (modeling) is defined as behavioral acquisition that occurs by watching the actions and outcomes of others’ behavior” (National Cancer Institute, 2005, p. 20). By learning about their ancestors and the healthy diet they consumed that led to positive nutritional health this would motivate the person to imitate these actions today. This would motivate to change the behaviors of consuming a westernized



diet that has led to many health issues among this population. Using their ancestors as a model of the types of traditional foods they should consume would lead to positive nutritional health.

TribalCrit tenet two provides rationale for this hypothesis in that, “U.S. policies toward Indigenous peoples are rooted in imperialism, White supremacy, and a desire for material gain” (Brayboy, 2005, p. 429). The loss of land and traditional foods due to policies created to disempower AI/AN people giving the power to the dominant society. This led to a drastic change to the AI/AN diet. The removal from their homelands resulted in the loss of pure water, fertile crop lands, and prime hunting grounds (Patchell & Edwards, 2014). Accounts by European explorers characterized AI/ANs as strong, healthy, and disease free (Patchell & Edwards, 2014), which could be attributed to the healthy traditional foods consumed. Therefore, if it had not been for policies that disrupted their traditional lifestyle, the culture of the AI/AN population would still be practiced and this group would continue to consume healthy traditional food that would produce good nutritional health.

## **CHAPTER IV**

### **RESULTS**

The purpose of this study was to determine if cultural participation is associated with health outcomes among AI/AN elders. To accomplish this task, research question one identified descriptive statistics such as frequency numbers for the independent variables and dependent variables to reflect the characteristics and demographics of the population in this study. In addition, three binary logistics regression tests were performed to identify if there was an association (relationship) between the following variables: research question two for health status and participation in cultural practices, income, education, employment, marital status, age, and gender; research question three for chronic disease and participation in cultural practices, income, education, employment, marital status, age, and gender; and research question four for nutritional health and participation in cultural practices, income, education, employment, marital status, age, and gender. The hypothesis for research question two was that there is an association between health status and participation in cultural practices stating that the odds of an AI/AN elder having a good health status will be higher for someone who participates in cultural practices compared to an AI/AN elder that does not participate in cultural practices. The hypothesis for research question three was that there is an association between diagnosis of chronic disease and participation in cultural practices stating that the odds of an AI/AN elder being diagnosed with chronic disease will be lower for someone who participates in cultural

practices compared to an AI/AN elder that does not participate in cultural practices. The hypothesis for research question four was that there is an association between nutritional health and participation in cultural practices stating that the odds of an AI/AN elder possessing good nutritional health will be higher for someone who participates in cultural practices compared to an AI/AN elder that does not participate in cultural practices. The findings for these research questions are reported in the next section.

### **Descriptive Statistics for Research Question One**

The results for research question one are the demographics of the sample listed in Table 1 which include income, education, employment, marital status, participation in cultural practices, age, and gender. As the data shows, just under half of the participants were low income at 47.4 percent. Middle income was at 43.8 percent and high income was less than one-tenth of the sample at 8.8 percent. Almost a quarter of the participants had less than a high school diploma at 23.4 percent, slightly over a third of the sample had a high school diploma at 35.7 percent, and beyond high school represented the largest percentage at 41 percent. Over two-thirds of the participants were unemployed at 69.1 percent compared to one-third that were employed at 30.9 percent. Over half of the participants were not married/or living with a partner at 59.3 percent compared to 40.7 percent who were married/or living with a partner. Over half of the participants participated in cultural practices at 54.6 percent and 45.4 percent did not participate in cultural practices. Over a third of the participants were in the 65 to 74-year age group at 38.3 percent and nearly the same for the 55 to 64-year age group at 36.4 percent. The 75 year and over age group represented about a quarter of the participants at 25.3 percent. Lastly, over half of the participants were female at 61.1 percent compared to 38.9 percent that were represented by males.

For the three dependent variables, about two-thirds of the participants had a good health status at 65.5 percent compared to 34.5 percent that had a bad health status. Almost nine-tenths of the sample consisted of Native elders who had been diagnosed with chronic disease at 87.3 percent compared to just 12.7 percent that were not diagnosed with a chronic disease. Almost three-fourths of the participants possessed poor nutritional health at 73 percent compared to the 27 percent of Native elders who had good nutritional health.

Table 1. Demographic Information of Sample Size (n=18,134)

Variable	%	N
Health Status		
Good	65.5	11817
Bad	34.5	6218
Chronic Disease		
Yes	87.3	15822
No	12.7	2312
Nutritional Health		
Good	27.0	4897
Poor	73.0	13237
Income		
Low	47.4	7489
Middle	43.8	6928
High	8.8	1396
Education		
Less than HS diploma	23.4	4108
High school diploma	35.7	6264
Beyond high school	41.0	7195
Employment		
Employed	30.9	5353
Unemployed	69.1	11966
Marital Status		
Married/or living w partner	40.7	7111
Not Married/or not living w partner	59.3	10356
Participation in cultural practices		
Yes	54.6	9248
No	45.4	7680
Age		
55-64 years	36.4	6080
65-74 years	38.3	6386
75 years and older	25.3	4217

Table 1. cont.

	Variable	%	N
Gender			
	Male	38.9	6854
	Female	61.1	10773

### Binary Logistics Regression Results for Research Question Two

**Self-Perceived Health Status.** A binary logistics regression was conducted on education, income, employment, marital status, cultural practice participation, age, and gender to determine if there was an association with self-perceived health status among AI/AN elders. The results for research question two determined that income (low and middle), education (less than grade 12), employment (employed), marital status (married/or living with partner), participation in cultural practices (participates in cultural practices), age (age group 65-74 years old), and gender (female) were associated with self-perceived health status.

For participation in cultural practices, the odds of an AI/AN elder possessing a good health status was higher for someone who participates in cultural practices compared to an AI/AN elder who does not participate in cultural practices. An AI/AN elder who participated in cultural practices had odds that made them 32 percent (1.32 times) more likely to have a good health status compared to an AI/AN elder who did not participate in cultural practices. For income, the odds of an AI/AN elder possessing a good health status was lower for someone who was classified as earning a low and middle income compared to an AI/AN elder who was classified as earning a high income. An AI/AN elder earning a low income was 58.1 percent less likely to possess a good health status compared to an AI/AN elder earning a high income. In that same token, although slightly less affected, an AI/AN elder earning a middle income was 43.1 percent less likely to have a good health status compared to an AI/AN elder earning a high

income. For education, the odds of an AI/AN elder possessing a good health status were lower for someone who acquired less than a grade 12 education compared to an AI/AN elder who acquired education beyond high school. An AI/AN elder who acquired less than a grade 12 education was less likely to have a good health status by 32.6 percent compared to an AI/AN elder who acquired education beyond high school. For employment, the odds of an AI/AN elder possessing a good health status was higher for someone who was employed compared to an AI/AN elder who was unemployed. An employed AI/AN elder had odds that made them 5 percent (1.05 times) more likely to have a good health status than an unemployed AI/AN elder. For marital status, the odds of an AI/AN elder possessing a good health status was higher for someone who was married/or living with partner than an AI/AN elder who was single/divorced/widowed. An AI/AN elder who was married/or living with partner had odds that made them 14 percent (1.14 times) more likely to have a good health status compared to a single/divorced/widowed AI/AN elder. For age, the odds of an AI/AN elder possessing a good health status is higher for someone who was in the age group 65-74 years of age compared to an AI/AN elder who was 75 years and older. An AI/AN elder in the age category 65-74 years old had odds that made them 14 percent (1.14 times) more likely to have a good health status compared to those in the 75 years and older age groups. For gender, the odds of an AI/AN elder female possessing a good health status is higher than an AI/AN elder male. An AI/AN elder female had odds that made them 10 percent (1.10 times) more likely to have a good health status compared to an AI/AN elder male.

Table 2 for research question two shows the results of the binary logistic regression for self-perceived health status among AI/AN elders by education, income, employment, marital status, cultural practice participation, age, and gender.

Table 2. Binary Logistic Regression for Research Question Two: Health Status among AI/AN Elders by Cultural Participation, Education, Income, Employment, Marital Status, Age, and Gender

Variables	B	S.E.	Wald	Sig.	Exp(B)
Income					
\$50,000+ (High) <sup>a</sup>			111.724	.000*	
\$15,000-\$49,999 (Middle)	-.564	.088	40.859	.000*	.569
< \$15,000 (Low)	-.870	.091	91.061	.000*	.419
Education					
Education beyond high school <sup>a</sup>			66.241	.000*	
High school diploma only	-.058	.045	1.678	.195	.943
Less than grade 12	-.394	.051	59.541	.000*	.674
Employment					
Employed	.718	.050	209.022	.000*	2.051
Marital Status					
Married/or living with partner	.126	.041	9.581	.002*	1.135
Participation in cultural practices					
Participates in cultural practices	.274	.038	51.369	.000*	1.315
Age in years					
75+ <sup>a</sup>			11.904	.003*	
65-74	.134	.049	7.357	.007*	1.143
55-64	-.004	.053	.006	.937	.996
Gender					
Female	.098	.040	6.106	.013*	1.103

\*p<.05

a. Reference group

### Binary Logistic Regression Results for Research Question Three

**Diagnosis of Chronic Disease.** A binary logistics regression was conducted on education, income, employment, marital status, cultural practice participation, age, and gender to determine if there was an association with the existence of chronic disease among AI/AN elders. The results for research question three determined that education (high school diploma only), employment (employed), age (age groups 55-64 and 65-74), and gender (female) were all statistically significant and were associated with existence of chronic disease. Cultural practice participation was not statistically significant.

For education, the odds of an AI/AN elder having an existence of chronic disease was lower for someone who had a high school diploma only compared to an AI/AN elder with an education beyond high school. An AI/AN elder who acquired a high school diploma reduced their odds of having an existence of chronic disease by 11.8 percent compared to AI/AN elders who received education beyond high school. For employment, the odds of an AI/AN elder having an existence of chronic disease was lower for someone who was employed compared to an AI/AN elder who was unemployed. An AI/AN elder who was employed reduced their odds of having an existence of chronic disease by 39.7 percent compared to an unemployed AI/AN elder. For age, the odds of an AI/AN elder having an existence of chronic disease was lower for someone who was in the age groups of 55-64 years of age and 65-74 years of age compared to an AI/AN elder who was in the age group of 75 years and older. An AI/AN elder who was in the age group 55-64 years old reduced their odds of having an existence of a chronic disease by 57.9 percent compared to the age group of 75 years and older. In addition, an AI/AN elder who was in the age group of 65-74 years old reduced their odds of having an existence of chronic disease by 22.5 percent compared to the age group of 75 years and older. For gender, the odds of having an existence of chronic disease was higher for an AI/AN elder female than an AI/AN elder male. An AI/AN elder female had odds that made them 39 percent (1.39 times) more likely to have the existence of chronic disease compared to an AI/AN elder male.

Table 3 for research question three shows the results of the binary logistic regression for diagnosis of chronic disease among AI/AN elders by education, income, employment, marital status, cultural practice participation, age, and gender.



Table 3. Binary Logistic Regression for Research Question Three: Diagnosis of Chronic Disease among AI/AN Elders by Cultural Participation, Education, Income, Employment, Marital Status, Age, and Gender

Variables	B	S.E.	Wald	Sig.	Exp(B)
<b>Income</b>					
\$50,000+ (High) <sup>a</sup>			3.725	.155	
\$15,000-\$49,999 (Middle)	.038	.092	.170	.680	1.039
< \$15,000 (Low)	.153	.103	2.214	.137	1.166
<b>Education</b>					
Education beyond high school <sup>a</sup>			4.271	.118	
High school diploma only	-.126	.063	4.022	.045*	.882
Less than grade 12	-.029	.080	.135	.713	.971
<b>Employment</b>					
Employed	-.506	.065	61.461	.000	.603
<b>Marital Status</b>					
Married/or living with partner	.026	.058	.206	.650	1.026
<b>Participation in cultural practices</b>					
Participates in cultural practices	-.028	.055	.258	.611	.972
<b>Age in years</b>					
75+ <sup>a</sup>			144.375	.000*	
65-74	-.254	.088	8.284	.004*	.775
55-64	-.864	.087	99.442	.000*	.421
<b>Gender</b>					
Female	.331	.056	35.203	.000*	1.392

\*p<.05

a. Reference group

### Binary Logistics Regression Results for Research Question Four

**Nutritional Health.** A binary logistics regression was conducted on education, income, employment, marital status, cultural practice participation, age, and gender to determine if there was an association with nutritional health. The results for research question four determined that income (low), education (high school diploma only), employment (employed), and marital status (married/or living with partner) were all statistically significant. Participation in cultural practices was not statistically significant.

For income, the odds of an AI/AN elder possessing good nutritional health is lower for someone earning a low income compared to an AI/AN elder earning a high income. An AI/AN elder earning a low income was 30.7 percent less likely to have a good nutritional health compared to an AI/AN elder earning a high income. For education, the odds of an AI/AN elder possessing good nutritional health was higher for someone with a high school diploma only compared to an AI/AN elder with education beyond high school. An AI/AN elder with a high school diploma had odds that made them 33 percent (1.33 times) more likely to have good nutritional health compared to AI/AN elders with education beyond high school. For employment, the odds of an AI/AN elder possessing good nutritional health is higher for someone who is employed compared to an AI/AN elder that is unemployed. An employed AI/AN elder had odds that made them 34 percent (1.34 times) more likely to have good nutritional health compared to unemployed AI/AN elders. For marital status, the odds of an AI/AN elder possessing good nutritional health is higher for someone who is married/or living with partner compared to an AI/AN elder who is not married/or living with partner. An AI/AN elder who is married/or living with partner had odds that made them 53 percent (1.53 times) more likely to have good nutritional health compared to an AI/AN elder who not married/or living with partner.

Table 4, for research question four shows the results of the binary logistic regression for nutritional health among AI/AN elders by education, income, employment, marital status, cultural practice participation, age, and gender.

Table 4. Binary Logistic Regression for Research Question Four: Nutritional Health among AI/AN Elders by Cultural Participation, Education, Income, Employment, Marital Status, Age, and Gender

Variables	B	S.E.	Wald	Sig.	Exp(B)
Income					
\$50,000+ (High) <sup>a</sup>			34.619	.000*	
\$15,000-\$49,999 (Middle)	-.107	.073	2.144	.143	.899

Table 4. cont.

Variables	B	S.E.	Wald	Sig.	Exp(B)
< \$15,000 (Low)	-.366	.080	20.817	.000*	.693
Education					
Education beyond high school <sup>a</sup>			36.161	.000*	
High school diploma only	.286	.049	34.715	.000*	1.331
Less than grade 12	.091	.061	2.245	.134	1.095
Employment					
Employed	.292	.051	33.129	.000*	1.338
Marital Status					
Married/or living with partner	.428	.044	95.115	.000*	1.534
Participation in cultural practices					
Participates in cultural practices	.018	.042	.173	.678	1.018
Age in years					
75+ <sup>a</sup>			6.515	.038*	
65-74	-.049	.058	.732	.392	.952
55-64	.076	.060	1.594	.207	1.079
Gender					
Female	-.020	.043	.212	.645	.980

\* p&lt;.05

a. Reference group

## **CHAPTER V**

### **DISCUSSION**

The purpose of this study was to understand whether participating in cultural practices is associated with health outcomes of AI/AN elders. First, an examination of descriptive statistics was conducted for the sample to determine the characteristics of the study population for research question one. Following this analysis, binary logistics regression tests were conducted to determine if there was an association between the following variables: health status and cultural participation for research question two, diagnosis of chronic disease and cultural participation for research question three, and nutritional health and cultural participation research question four.

#### **Research Question One**

The aim of this research was to define demographic characteristics of the sample included in this study and determine if participating in cultural practices was associated with health status, diagnosis of chronic disease, and nutritional health among AI/AN elders. The demographic characteristics of the AI/AN elder population in this study echoed similar findings found in other research studies among this population. Previous studies have shown that AI/ANs 50 years and older earned \$10,000 less compared to the same-age U.S. population in terms of mean total personal income (Goins, 2015); in this study finding, nearly half of the AI/AN elder population below the \$15,000 a year range. Other findings revealed that over two-thirds of the respondents indicated they were unemployed and well over half described their educational level

at a high school diploma or less. The results of income, employment and education of this population support the findings of previous studies that indicate when compared to non-Hispanic Whites; the AI/AN population tends to experience lower educational attainment, lower household income, and greater poverty levels (Kim et al., 2012). Furthermore, other studies found that AI/ANs 50 years and older had lower percentage of employment (Goins et al., 2015), which coincides with the outcome of this study.

Over half of the respondents indicated they participate in cultural activities which supports other research findings that reveal a return to traditional practices through culturally-based treatment models that include AI/AN traditions and holistic concepts of wellness in an attempt to heal this population (Jiwa, Kelly, & Pierre-Hanson, 2008; Coyhis & Simonelli, 2008; Coyhis & White, 2002; Szlemko, Wood, Jumper, & Thurman, 2006; Legha & Novins, 2012).

The findings of the physical and nutritional health characteristics were similar to other research findings among this population. Over a third of the respondents indicated a poor health status, while diagnosis of chronic disease and poor nutritional health were outstandingly high. This is not surprising considering other studies have found that when compared to Non-Hispanic Whites, AI/ANs suffered from high rates of poor physical and mental health (Kim et al., 2012).

Furthermore, the high rate of poor nutritional health can be attributed to the fact that research shows tribal communities lack access to high quality foods leading to situations of food insecurity (Jernigan, Salvatore, Styne, & Winkleby, 2012). In addition, AI/ANs live in obesogenic food environments consisting of small food stores, carry outs, and fast-food restaurants with poor access to fruit and vegetables or other whole foods (Gittelsohn & Rowan, 2011). Findings of the population characteristics in this study reveal a continued struggle with health and social disparities in this study population.

## Research Question Two

For this study, support for one of the three hypothesis was found. As predicted for research question two, the odds of an AI/AN elder possessing a good health status was higher for someone who participates in cultural practices compared to an AI/AN elder who does not participate in cultural practices. Therefore, an association exists between participation in cultural practices and a good health status. The findings of this large national study analysis are consistent with smaller studies that found better health outcomes were achieved when participation in cultural practices served as a mediating factor (Carlson et al., 2017). Additional literature and studies support the association of overall self-rated health status (Nava, Zambrano, Arviso, Brochetti, & Becker, 2015) and physical health (Dill et al., 2016; Oster, Grier, Lightning, Mayan, & Toth, 2014) to AI cultural factors (Carlson et al., 2017). As previously stated, evidence from prior research studies support findings showing a positive association with cultural engagement and health status (Thiel, 2015). The results of this study could be attributed to fact that when Native culture and traditions are utilized in treatment models for Native patients, better health outcomes are achieved among this population (Bassett et. al, 2012).

Reformulating approaches to health care treatment models for AI/AN elder population to include Native culture and traditional approaches could prove beneficial in raising the health status of this population. Affording the opportunity to formulate intervention or health care prevention models as well as health care treatment models utilizing cultural practices could potentially improve health outcomes. The advantages of this approach would allow for changes in prevention and treatment plans across health care systems for the AI/AN population.

### **Research Question Three**

The findings presented by research question three in this study did not reflect findings from previous research studies. No association between diagnosis of chronic disease and participation in cultural activities was identified; there was no statistical significance present in this analysis. It is surprising that no association between the two variables exist when according to previous research chronic diseases were virtually nonexistent over a century ago among the AI/AN population (McLaughlin, 2010). In fact, it is notable when Europeans first encountered AI/AN people, they described them as being tall and having strong bodies (Dapice, 2006), which could be perceived as AI/ANs being a healthy population during the pre-colonization period. Therefore, the basis of the hypothesis for research question three relied on the fact that pre-colonization, the AI/AN population practiced their culture daily promoting a disease free existence, which resulted in a healthier population.

### **Research Question Four**

The findings of research question four did not establish an association between nutritional health and participation in cultural practices. The results of this large national study do not provide confirmation of previous literature, which suggests that traditional, healthy foods such as crop based (maize, beans, and squash) foods, lean meats, and seafood were consumed aiding in a better health status (Yracheta et al., 2015). The unexpected findings of this test could be attributed to and explained by the forced colonization and assimilation of the AI/AN population.

The difference between the pre-colonized life and post-colonized life tend to confuse the definition of traditional foods for AI/ANs today. Currently, AI/ANs may identify cultural foods completely different from their ancestors as a result of colonization. For example, frybread has become recognized as a traditional food among the AI/AN population. Deer stew, acorn squash,

wild rice, and frybread have fallen into the same category of a “traditional feast” (Vantrease, 2013). Surprisingly, unhealthy frybread has been defined as a “traditional” food among AI/AN people. “It is said that “no ‘traditional’ Indian meal is complete without a big pile of fried bread” (Hungry Wolf, 1980, p. 209; Vantrease, 2013, p. 63). Unfortunately, government food aid has been defined as part of AI/AN culture and traditions due to generations of this population being confined to the reservation (Vantrease, 2013).

The confusion between pre-colonial and post-colonial AI/AN culture may attribute to the finding of no association between cultural participation and nutritional health. When according to literature, as AI/AN people were forced to assimilate into dominant society they lost their traditional foods and were forced to rely on consuming unhealthy non-traditional foods which consisted of beef and salt pork, wheat flour, and refined sugar (Vantrease, 2013). The exposure to a westernized diet led to the development of chronic conditions such as diabetes and obesity (Yracheta et al., 2015). Therefore, colonization practices have attributed to the disconnect with “traditional” foods among this culture and redefined a small part of their traditions.

TribalCrit Theory assists in explaining how this occurred and has led to poor health among the AI/AN population. It helps us to understand that colonization had an effect on the foods AI/AN people considered traditional. Frybread is a post-colonized traditional food that was not included in the pre-colonized traditional foods among AI/AN people. However, through TribalCrit Theory it helps us to understand that frybread becoming a traditional food is another example of the effects of colonization on the AI/AN people. Unfortunately, this is one of the many consequences the AI/AN population have endured due to assimilation practices carried out by the federal government. However, we can utilize the SCT model to decolonize foods and



provide a way forward for this population to return to consuming pre-colonized traditional foods, which would lead to a healthier lifestyle.

### **Limitations**

This study has several limitations. First, the NRCNAA recommends a random sampling method to be conducted when administering the survey tool to AI/AN elders; however, with time limitations, geographical barriers, shortage of staff, and other significant barriers, it is sometimes not feasible for the tribal Title VI offices to use this type of sampling. Therefore, some of the participating tribes elect to use a convenient sampling method. This is usually performed by administering the survey during congregated meals or other social gatherings. The percentage of tribes that collect data using this method is undetermined by the NRCNAA.

Secondly, the surveys are specific to AI/AN elders receiving services through tribal Title VI offices; therefore, AI/AN elders outside this program are not sampled. However, although AI/AN elders outside of the tribal Title VI program are not represented, the sample is a large national study and provides a generalizable sample of the AI/AN elder population.

Lastly, the definition of a Native elder differs from a non-Native elder in terms of age due to the lower life expectancy experienced by the AI/AN population. The difference in age to define a Native elder and a non-Native elder is a ten-year gap. This creates difficulty in making a fair comparison with Native elders 55 years and older compared to non-Native elders 65 years and older. The elimination of the 55-64 year age group may reflect a higher prevalence of disease since this would represent an older sample; however, this would provide us with an accurate representation of the Native elder population compared to the non-Native elder population.

## **Conclusion**

The two theoretical frameworks used in this study, TribalCrit Theory and SCT, have come together with the data to support our understanding about the outcomes of this study. First, TribalCrit Theory explains how colonization has led to a high number of health disparities among the AI/AN population and second, SCT provides us with a way forward in which cultural maintenance would serve as the foundation in AI/AN elders living a healthier lifestyle through a decolonized approach. This is supported by the data results, which showed an association between health status and cultural participation. The outcomes of the results for these variables support the idea that decolonizing this population through engaging in cultural practices could lead to better health outcomes such as an improved health status.

This study was conducted to understand the associated effects that participating in cultural practices would reveal in health outcomes including health status, diagnosis of chronic disease, and nutritional health among AI/AN elders. With health issues remaining stagnant and sometimes worsening in this population, it is important to research factors that can improve the health outcomes of this group. Although the research is limited in this area, the studies that have been conducted on traditional healing and cultural practices provide a positive outlook for the future in regards to incorporating cultural traditions as part of prevention and treatment programs to address health issues among AI/AN people. The current study and future studies in this area will only strengthen the argument for traditional cultural practices serving a role in the prevention and treatment of the AI/AN population, which will have a greater likelihood of improving health outcomes.

The information from this study can be used to determine how to use the results to provide a strong argument to include cultural practices in serving the health care needs of AI/AN

people. Developing culturally appropriate health care programs specific to the A/AN elder population may aid in better prevention and treatment programs for this population. Culturally tailoring health models serving the AI/AN people allow us the opportunity to utilize effective treatments that could change the health outcomes of the AI/AN population, which would finally lead to the recovery of the negative impacts resulting from colonization. This study could be a step towards helping the AI/AN people finally heal from the trauma that led to these circumstance of poor health. Advocating for this change through educating both AI/AN and non-AI/AN health care providers and health facilities in culturally driven health care models, has the potential to result in sustainable change in policy and health systems that will drastically improve health outcomes among the AI/AN elder population.

Overall, I felt that the outcomes of this study were surprising since health status was the only dependent variable that was associated with cultural participation. I thought health status, diagnosis of chronic disease, and nutritional health would have all been associated with cultural participation among the AI/AN elder population. Furthermore, I felt that engaging in cultural practices for this population would lead to better health outcomes since before colonization this population was very healthy. I think if questions that were more specific to the types of cultural practices AI/AN people engage in and how often they engage in those practices were added to the survey the results would be different in terms of associations.

Although the results of the study were not what I had expected, the information from this study will be very helpful in assisting tribes to delve further in this area to secure resources and funding that will provide programs incorporating their cultural practices into their lives and in health treatment and prevention programs. I feel very strongly that the incorporation of cultural practices in treatment and prevention models will be the most helpful in reducing the risk of

developing health issues among this population. Furthermore, I think decolonizing the AI/AN lifestyle and returning to their traditional cultural practices would be a positive step forward in improving the health of this group.

### **Recommendations for Future Research**

1. As mentioned in this study, diet plays an important role in health outcomes. Although this study did not find an association between cultural practices and nutritional health, future studies could include various aspects of diet among AI/AN people. For example, cultural food consumption indicators could be utilized to determine if there is an association with cultural foods and nutritional health, which could be based on gender, age, income, employment, and education.
2. Access to health care is another important factor that can affect health outcomes; therefore, future studies could utilize health care service indicators that compare western medicine model practices and cultural traditional medicine practices to determine their associations with health outcomes among this population. We could look at specific types of providers including traditional medicine men as well as types of treatments that include sweat lodges, the medicine wheel, smudging, and other beneficial cultural practices considered to be ideal for treatment of health problems among this population. This would help us to determine which type of treatment and provider better serves the AI/AN population and reduces the risk of developing health issues.
3. The *“Identifying our Needs: A Survey of Elders VI”* is a comprehensive survey that includes health and social needs questions, which is very valuable information for this population. However, for future studies, the survey could include more specific cultural practice and cultural food consumption questions. This would allow us to determine specific

cultural practices and cultural food consumption patterns that would tell us which of these practices and food consumption patterns are associated with better health outcomes for the AI/AN elder population.

### **Implications for Practice**

The findings of this study provide several implications for practice and recommendations for this population. First of all, health care institutions should consider decolonizing their prevention plans and health care treatment models when serving the AI/AN population.

TribalCrit Theory can be used to develop these models since it assists in understanding the effects of colonization on the AI/AN population, specifically in terms of health disparities. The prevention plans and health care treatment models developed through the use of TribalCrit Theory and SCT can provide the framework to help develop treatment and prevention models that incorporate a culturally specific, healthier decolonized lifestyle approach for AI/AN people.

This would be accomplished by creating the treatment and prevention models to include traditional cultural practices such as sweat lodges, sun dance ceremonies, the medicine wheel, smudging, and other traditional cultural practices that promote positive health behaviors. These culturally specific health behaviors would encourage self-efficacy of the AI/AN population through their resilient efforts, which would return them to a decolonized lifestyle. The results of these actions could lead to better health outcomes among this population.

Second, the criteria for deeming programs as evidence-based need to accommodate the unique circumstances and challenges faced by the AI/AN population. Redefining protocols for evidence-based intervention programs and treatment plans could assist in freeing up resources and funding. For example, if traditional healing or culturally specific treatment plans were considered evidence based practices, public health and private insurance coverage plans could be

billed for reimbursement at IHS. Furthermore, AI/AN patients who prefer culturally appropriate treatment plans or prevention practices would have coverage for these services in non-IHS facilities. This would alleviate the financial burden for those who prefer AI/AN culturally based traditional healing practices, but are unable to afford it since the treatment is not from an evidence based program.

Third, a combination of culturally based traditional practice models and Western medical models could be developed to provide a cultural connection for the AI/AN patient as well as providing them the newest treatment services for their particular health problem. This would help to ensure that there is a balance between culturally based traditional healing practices and Western medical methods for the AI/AN population.

Lastly, health care providers should be culturally sensitive to the health care needs of the AI/AN population. This can be accomplished through education and training on providing care to the AI/AN population in a culturally competent manner. The trainings should be conducted by other AI/AN health care professionals to ensure appropriate methods are being implemented for the best possible culturally aware health care services for this population.

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