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Mental Health And Social Engagement Among American Indian Elders

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MENTAL HEALTH AND SOCIAL ENGAGEMENT AMONG AMERICAN INDIAN
ELDERS

by

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A Dissertation

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

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November 29, 2012

Title   Mental Health and Social Engagement Among American Indian Elders

Department   Teaching and Learning

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                              Twyla Baker-Demaray
                              November 29, 2012

TABLE OF CONTENTS

LIST OF TABLES

ACKNOWLEDGEMENTS

For My Elders

ABSTRACT

Elderly American Indians and Alaska Natives (AI/ANs) in the United States are increasing in number, and with their increase come a greater need for quality, culturally sensitive long term care. Mental health is one facet of overall health that is little explored for this particular population. Social engagement has been shown to be a protective factor for depressive symptoms amongst mainstream elder populations. This study looked at data from a nationwide AI/AN elder needs assessment. The purposes of this study were threefold. First, the data were analyzed to describe the characteristics of the study population. Second, a regression analysis was conducted to determine if a relationship existed between self-perceived general health status and a social engagement. Lastly, a regression analysis was conducted to determine if a relationship existed between self-perceived mental health status and social engagement. The analysis of the data did not indicate a strong relationship between the variables. Various aspects on the results and their implications for further research are discussed.

CHAPTER I

INTRODUCTION

People in the United States are living longer now than they ever have. Chronic

conditions, physical activity, proper long term care, and mental health are all concerns for

an aging population wishing to maintain a high quality of life in their later years.

American Indians and Alaska Natives (AI/ANs) have unique concerns for their aging

populations. American Indian and Alaska Native elders often live in and deal with

situations and environments vastly different from the typical American senior. Many

Alaska Native elders still live a subsistence lifestyle, drawing their living from the land

through fishing, hunting, and daily activities, much as their ancestors did hundreds of

years ago. Native elders in the U.S., however, can be highly urbanized, and have access

to health and wellness resources very similar to the U.S. general population. Life

expectancies for Native seniors still lag behind the rest of the population (IHS, 2006) in a

country with the most modern health care system in the world.

Mental health is one facet in a spectrum of health issues that contributes heavily

to the quality of life of AI/AN seniors. For many elders, a positive perception of their

own health can impact physical, functional, and psychological well-being (Ruthig, 2008).

American Indian elders have had to survive a number of challenges and adversity to

reach old age; many are survivors of boarding schools, dispossession, relocation, and

abuses suffered at the hands of governments, religious organizations, and their own

families. Resilience in the face of adversity or post trauma has been studied to a limited extent amongst Native seniors (Grandbois & Sanders, 2009, 2012, Gray, Cromer, & Freyd, 2005). Overall, however Native people continue to be one of the least studied populations when it comes to health, mental health, and wellness despite the fact that they experience significantly more psychological problems than the majority culture (Mills, 2008).

Though AI/AN people are experiencing an increase in life expectancy (IHS, 2006), they still lag behind other populations. With a longer life expectancy comes an increase in health issues such as chronic disease, disability, and depression. It has been shown in studies amongst mainstream populations that chronic disease and/or disability are co-morbid with depression in seniors (Katon, 2007). Managing chronic disease and depression is a manifold issue, likely requiring multiple solutions and approaches.

Mental health is a little-explored issue amongst AI/AN seniors (LaFramboise, 1998). American Indians and Alaska Natives of history and in modern times have relied upon their faith, spirituality, and social and family ties to maintain their health in various manners (Meisenhelder & Chandler, 2000, LaFromboise, 1988). Maintaining a high quality of life as one ages can and does hinge upon the outlook of a person, whether positive or negative (Ruthig, 2009). Though myriad models and treatments for depression and mental health interventions exist, not all people enjoy equal access to them. Given the unique contexts elderly Native people live in throughout the United States and the lack of research done on these populations in this respect, it is incumbent upon researchers to look into the mental health status of AI/AN elders which may lead to

possible interventions. Such interventions, when used in the appropriate cultural context, could lead to higher qualities of life and improved health outcomes for AI/AN elders.

Social engagement in elder populations has received some attention in the literature as a protective factor against depression (Blazer, 2005, Lou, 2012). Elders in AI/AN populations live in some of the most remote locations in the nation, particularly Alaska Natives. Providing long term care is a challenge, to state it lightly for many AI/AN elders, and many receive their care in informal, at-home settings, due to the lack of facilities or resources, or the prohibitive costs associated with formal care (Mcdonald, 2005). Elders who are isolated are at heightened risk for developing depressive symptoms (Adams, et al., 2004). As there are a number of informal caregivers providing care for older loved ones, it is important to know what factors are influencing elders' quality of life, and what their caregivers can do to enhance it. Understanding the impact a factor such as social engagement has on AI/AN elder health could provide some insight for caregivers and health care providers when making decisions in their care. With this thought in mind, this study looks at the characteristics of the AI/AN elder population in question, whether social engagement plays a role in self-perceived general health, and finally, on the mental health of AI/AN elders.

Statement of Purpose

The purpose of this study is to assess the relationship between social factors and the health of American Indian elders aged 55 and over. First, a descriptive analysis of the population surveyed, American Indian elders aged 55 and older, was conducted. Secondly, we examined our variables to find out if an association exists between the

social engagement and mental health variables. Does social engagement impact

emotional state in American Indian and Alaska Native elders?

<div align="center">Research Questions</div>

Question one: What are the characteristics of our population and subsets? Define

descriptively the characteristics of the population in the data set being used;

that is, American Indian elders age 55 and older.

Question two: Does an association exist between social engagement and mental health

self-perception?

Question three: Does an association exist between social engagement and self-

assessed general health status?

<div align="center">Theoretical Framework</div>

The theoretical framework behind this study is based upon various concepts of

social engagement and support as described by Uchino (2004), and self as a part of a

whole, and family and social relationships within Native American society and culture

(Deloria, 1973). It is widely recognized that European colonization of the Americas

brought with it many diseases, health, and other threats, even to the breakdown of the

family and social structures within the AI/AN cultures that existed on 'Turtle Island', as

many tribes referred to this continent (Deloria, 1969, 1973; Dobyns, 1983; Ramenofsky,

1987; Olson, 2002). Despite concerted efforts by colonization, languages, customs, and

value systems of indigenous peoples survived and persist to this day, including the values

of mutualism and communalism; that is the group versus the self, and the value of the

aged and their knowledge and wisdom. These values not only contributed to the day-to-

day lives of Native people, but were necessary for the survival of the group as a whole in the unforgiving environments in which AI/AN people lived.

In the realm of modern elder care and caregiving, these cultural values play a role in providing for AI/AN seniors as they age and their populations grow. Native and non-Native elders have shown a preference for 'aging in place'; that is, remaining in their current contexts as opposed to being placed in institutionalized care (Marek & Rantz, 2000). Aging in place allows elders to remain tied to the communities and the culture with which they are most familiar and comfortable, and contributes greatly to the overall health of the elder (National Resource Center for American Indian, Alaska Native, and Native Hawaiian Elders, 2004). Disengagement, whether in the form of social isolation or removal to institutionalized care, can prove disastrous to the health of a Native elder (Lewis, 2011). Social support as conceptualized by Uchino (2004) is the "functions that are provided by social relationships". Social support is seen to have positive impacts on health when individuals are set in social networks that provide meaningful roles, in turn enriching life and enhancing health by providing meaning (Thoits, 1983). Through these analyses, this study seeks to find if these concepts hold true for a little-explored population of the world's aged; the American Indian & Alaska Native elder.

CHAPTER II

LITERATURE REVIEW

Researchers have chronicled the disparities in mental health care availability and funding (Gone, 2004). The primary health care delivery system for American Indians in the lower 48 United States has been the Indian Health Service (IHS), created by Public Law 94-437, the Indian Health Care Improvement Act, passed in 1976. The goal of this law has been to bring Native people to the "highest possible health status they are capable of realizing"; however the IHS is stymied in this goal by consistent underfunding of its programs. Indian Health Service is funded at approximately 50-60% of need; of this funding, behavioral health and substance abuse treatment services in combination claim only about 7% (Gone, 2004). Underfunding of programs naturally leads to limited access to mental health services; however some researchers have found that even when adequate care and services were available, AI/ANs don't necessarily use them readily (Costello, 1997), and AI/ANs also tend to drop out of treatment earlier that other populations, and are more likely to cease treatment after the first session (Sue et al., 1978). This could be attributed to a number of explanations, including cultural mores and taboos concerning depression and mental illness, attitudes towards Western medicine and doctors, concerns about privacy, and a lack of culturally responsive or relevant services and programs (Gone, 2004, Safran, 2009).

American Indian and Alaska Native elders have unique concerns when it comes to mental health and wellness. Access to care is a concern for many AI/AN seniors who live in rural areas of Indian Country, as is the availability of services (Probst, et al., 2004). Qualified mental health professionals may be difficult to find in areas such as these, for reasons ranging from funding, to lack of housing, to inadequate infrastructure (American Psychiatric Association, 2010). Even if such services were available, there is no guarantee that elders would use them.

<center>Health Disparities and Native People</center>

American Indians and Alaska Natives have had a relationship with the United States government and its mainstream populations that has been at best, strained, and at worst, tragic and heartbreaking. Many Native elders are old enough to have lived through some of the atrocities visited upon this group of people, and many still live each day with their impacts. Historical trauma is the cumulative emotional and psychological wounding, over the lifespan and across generations, emanating from massive group trauma experiences (Brave Heart, 1998). Historical unresolved grief is defined as intergenerational emotional and/or psychological injury resulting from a legacy of genocide (Brave Heart, 1998, 1999, 2000). Arguably, elders from AI/AN cultures have had their share of traumatic experiences, whether it is due to boarding school experience, forced removal from home and loved ones, loss of language and lifeways, suppression of traditional belief systems, continued loss of environment and habitat – the list continues. Researchers have begun to investigate the impacts these phenomena have had on Native people throughout the lifespan. The concepts of historical trauma and historical unresolved grief have been explored and studied for a relatively short time (BraveHeart,

1998, 1999, 2000; BraveHeart & DeBruyn, 1998; Duran & Duran, 1995), thus Native elders have not had a lot of focus placed upon them as survivors historical trauma and grief. Mental health in general is a little studied topic in Native elders; their populations exhibit many of the same characteristics as the younger Native populations with regard to mental health status and treatment, and thus face similar hardships.

That's kind of like taboo. You know, we don't do that. We never did do that. If you look at the big picture—you look at your past, your history, where you come from—and you look at your future where the Whiteman's leading you, I guess you could make a choice: Where do I want to end up? And I guess a lot of people want to end up looking good to the Whiteman. Then it'd be a good thing to do: Go [to the] white psychiatrists in the Indian Health Service and say, "Rid me of my history, my past, and brainwash me forever so I can be like a Whiteman." (Gone, 2007).

Mental health issues and their treatment, as illustrated in the above quote, can be highly sensitive topics amongst Native people. Cultural mores and stoicism aren't the only barriers to treatment caregivers run into. For many, simply accessing reliable, consistent care can be frustrating, at best.

The expanses of "Indian Country", as defined by public law 18 U.S.C. 1151, covers some of the most remote areas in the United States, with poor access to health care services being only one of many concerns. According to the U.S. Commission on Civil Rights (2004), health-related problems and the lack of adequate health care is "the enemy". American Indians and Alaska Natives continue to suffer disproportionately from a number of illnesses and diseases. This constant, ever-present state is not only a burden

for Native people, but also a "drain on the entire Native American existence" (U.S. CCR, 2004). Poor health "inhibits the economic, educational, and social development of Native Americans and establishes an inescapable cycle of disparity" (pg. 7).

<center>A Brief History of the American Indian in the United States</center>

Sovereignty is a term that receives much attention in reference to the American Indian. The Mohegan Tribe of Connecticut describes sovereignty as "the most fundamental concept that defines the relationship between the government of the United States of America and governments of Native American tribes." (Mohegan Tribe of Connecticut, 2008). Depending on the realm of reference, sovereignty's impacts and definitions vary; Supreme Court Justice Felix Cohen described sovereignty in 1942 as "the principle that those powers which are lawfully vested in an Indian tribe are not delegated powers granted by express acts of Congress, but rather inherent powers of a limited sovereignty which can never be extinguished," (O'Brien, 1989).

Tribes within the United States are considered 'sovereign governments,' though the definition of the term is debated. For the most part, tribes typically have what is described as a trust relationship with the United States government, that is, the Federal Indian Trust Responsibility, as it is officially known, is a "legal obligation under which the United States has charged itself with moral obligations of the highest responsibility and trust toward American Indian tribes" (Seminole Nation v. United States, 1942; Cherokee Nation v. Georgia, 1831). Tribes operate on a government-to-government basis with the Federal government, and for the most part, states do not exert power over tribes within their land holdings, and vice-versa. This relationship impacts the daily lives of many citizens of tribal nations every day. Judicial systems, health care, education, social

services, and many other types of resources are impacted by tribal status. Relationships (or the lack thereof) between state, local, and tribally affiliated services can be complex and confusing even for a person working within a given system. Tribes may choose to negotiate with a local municipality for police and/or emergency services, or may provide these on their own; health care services can also be provided by Indian Health Service, a tribal health care facility, or may be contracted out to an outside provider. The diversity of delivery of such services and programs attests to the variety of the organizations that provide them (U.S. Commission on Civil Rights, 2003, Minnesota House Research Department, 2007, Merina, 2008).

The primary provider of health care in Indian Country is the Indian Health Service (IHS). IHS was established by the Indian Health Care Improvement Act in 1976. The goal of IHS is to "raise the level of Indian health to the highest possible level."(IHS, 2011). IHS has been met with considerable challenges however, in reaching this goal due to lack of infrastructure, rurality of service areas, lack of providers, and many more reasons (Sequist, 2011). The IHS provides services for approximately 1.9 million Native people, or about half of the entire U.S. Native population. The overall budget of the IHS, or about $4.05 billion, "supports expenditures per person that are substantially less than all other federal health care programs" (pg. 1), and has had no increases in funding since 1992.

Anecdotes abound in Indian Country about the lack of services available, long drives, and even longer wait to be seen by providers who can change from month to month. American Indians and Alaska Natives live in parts of the country with varying

degrees of access, and the challenges they face in trying to receive adequate health care, play out in their health statistics.

American Indians are at greater risk for mental health issues than other racial or ethnic groups in the United States (U.S. CCR, 2003). Dr. Jon Perez states that the Indian Health Service is ill-equipped to deal with the mental health needs of its service population; ongoing, quality psychiatric care for those in need is not possible. Rather, the primary model of care is responding to emergencies as they arise and stabilizing patients until the next crises occurs.

<center>Mental Health and Depression in Indian Country</center>

There is no word for 'depression' in any Native language; however depression in modern American Indian communities is not an unknown phenomenon. Many experts agree that acculturation and historical trauma contributes largely towards many of the societal ills which lead to depression, disease, suicidal behavior and other problems for Native people throughout the country (Braveheart, 1998, 1999, 2000, 2003; Gray, 2005; Whitbeck, 2004).

It is no secret that Native people throughout the United States have a history of dispossession, displacement, trauma, and arguably genocide, suffered at the hands of western societal encroachment and colonization. Loss of language, cultural identity, and a breakdown of the family structure, endorsed by the United States government and various religious and other groups throughout history have added challenge upon challenge to the issues that face Native American people today (Braveheart, 1998; PBS, 2006).

The statistics bear witness; according to the National Institutes of Health (2004), American Indians are 510 percent more likely to die of alcoholism than the general

<center>11</center>

population, 189 percent more likely to die of diabetes, and 229 percent more likely to die of motor vehicle crashes. The United State Department of Health and Human Services (2010) reports that non-Hispanic American Indian and Alaska Native (AI/AN) adults are more likely to have poorer health, unmet medical needs due to cost, diabetes, trouble hearing, activity limitations, and to have experienced feelings of psychological distress in the past 30 days.

The disparities that exist in Native populations are compounded by issues of access (Zuckerman, et Al, 2004, Roubideaux, 2011). Many Native people live in underserved areas, in parts of the country commonly referred to as "Indian Country". These areas, as defined by Federal law 18 U.S.C. § 1151, are as follows:

Except as otherwise provided in sections 1154 and 1156 of this title, the term "Indian Country", as used in this chapter, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

Issues of access to mental health care in Indian Country have been documented to a limited extent. Roubideaux (2011) notes the availability of approximately 101 American Indian/Alaska Native mental healthcare professionals per 100,000 AI/ANs in contrast to the 173 available per 100,000 white persons. Lack of infrastructure is another

problem, as many Indian Health Service hospitals and clinics simply do not have facilities, counseling services, or even prescription medications necessary for proper treatment of mental health issues (UC Davis, 2009).

Further exacerbating the problem amongst Native people are stigmas associated with seeking help for mental health problems, culturally inappropriate services, and scarcity and high turnover rates of mental health professionals serving Indian Country.

Few studies have focused on mental health and the issues of older Native adults. Barney (1994) examined Native elders' use of mental health services as a means to find what led elders to use or not use such services. The authors found that their participants' self-perceived need was the strongest predictor of whether or not elders would use mental health services. Other variables like total income, education level, and access to medical insurance, which might be seen as enabling in other populations, were not found to have a large influence on whether participants chose to use mental health services.

Beals, et al (2005) examined two groups of American Indian people and their use of mental health services, as well as the prevalence of mental disorders in these separate communities. This study was not exclusively American Indian elders, but rather a sampling of people ages ranging from 15-54 living on or near their home reservations. The authors found that the most common lifetime diagnoses amongst these populations were alcohol dependence, posttraumatic stress disorder (PTSD), and major depressive episode. Further, the authors found that compared to national statistics, PTSD rates were higher in American Indian samples. American Indian people in this sample were also more likely to seek help from traditional healers than mainstream providers in all of their samples. The authors concluded that American Indian populations had comparable, and

in some cases, greater mental health service needs when compared with the rest of the United States.

There is a paucity of research that focuses specifically on older AI/ANs and mental health. The literature that does exist typically folds mental health or AI/ANs into a larger analysis of multiple factors. One such study, Goins and Pilkerton (2010), examined patterns of comorbidity in older American Indians. Comorbidity, or the presence of two or more chronic conditions in an individual, increases the risk of mortality, hospitalizations, prescription medications, and poorer mental health, among other risks. In a cross-sectional study of 505 older American Indians, the authors assessed the burden of 32 chronic conditions. Just less than a third of their sample did not exhibit comorbidity. Those with higher comorbidity scores as measured by the author's comorbidity scale correlated with older age, poorer physical function, more depressive symptomatology, and lower personal mastery. This study is perhaps the first to look at psychosocial correlates of comorbidity in American Indian people.

The data set the National Resource Center on Native American Aging (NRCNAA) houses has not been without prior analysis. Ruthig & Allery (2008) analyzed the third cycle of elder data from the NRCNAA, collected from April 2006 through March 2008. This study examined how well participants' perceptions of their own health compared with their actual health. The subjective health of participants was assessed by the question, "Would you say your health in general is excellent, very good, good, fair, or poor?" Results were split into poor subjective health (SH) and good SH. Objective health (OH) was assessed based on the presence and seriousness of thirteen possible chronic conditions.

This measure was also split, into poor OH and good OH. Subjects were then grouped as health pessimists (those with poor SH and good OH), health optimists (those with good SH and poor OH), poor health realists (those with poor SH and poor OH), and good health realists (those with good SH and good OH). Health optimists in these groups reported fewer functional difficulties than poor health realists, and were more active than other groups. Ruthig & Allery also found that health optimists were more socially engaged than realists, women were more engaged than men, and younger aged respondents were more engaged than older. These findings echoed research on the psychological disadvantages of health pessimism; that is, it is associated with poorer functioning and psychological well-being (p. 1078).

Little research has been published examining social support and health specific to older AI/ANs, but social support's impacts on related populations are not unknown. Chong & Lopez (2005) examined the impacts of social networks on the psychosocial functioning of Native American women in residential substance abuse treatment. Social support was assessed by two measures; self-reported perceptions of support, and observed support. It was found that those participants who had social support and active participation by families in their treatment programs experienced improvement in their psychosocial functioning. The authors concluded that including family and friend networks in substance abuse intervention programs would have a positive effect on treatment outcomes (Chong, 2005).

Cox (1988) was a seminal work conducted via 379 face-to-face interviews with elders aged 60 and over. After descriptively summarizing their sample population, the authors conducted a Pearson product-moment correlation analysis to determine if a

relationship existed between income, education, and social isolation. Researchers found that respondents who had a larger social network, more income, and more education reported a better health status and perceived themselves to be less lonely than the less educated, those with smaller networks, and those with less income.

Cox also conducted regression analysis to determine the factors which social network relationships were the best predictors of health status. Friends, relatives other than children, and church relationships/activities were significant predictors of improved health status. Education and income adequacy also impacted elders' perceived health status.

The role of belief systems in the health of older American Indians has been studied by Meisenhelder & Chandler (2000). The authors described the dual role faith and spirituality can play in 'social support' in this work, and described prayer as a means of communicating with an acknowledged 'Other', or the establishment and communication with another being, whether it is termed "God", "the Great Spirit", or "the Universe". This indication of the presence of 'Another' indicates the presence of a relationship, even in the oftentimes solitary act of prayer, and thus may be viewed in the scope of social support (pg. 194).

Meisenhelder and Chandler used a mail questionnaire to survey subjects aged 65 and older. The group of American Indian respondents was a subset of the whole, providing 71 of 271 total usable responses. It was found amongst the older American Indian group that age and social support were significantly related to health outcomes. Neither factor, however, was shown to influence mental health. One factor that showed a strong association with mental health was the importance of faith in his or her life.

Authors found that belief in a 'Higher Power' was associated with a positive mental outlook.

In their model, Meisenhelder and Chandler clearly link the 'strength of belief in a Higher Power' (pg. 193), or faith, to health, or the mental and physical functioning of their subjects. Prayer, as described previously, or the establishment of a relationship with the 'Higher Power' through meditation, or the act of praying, is central to the concept of faith, and so plays a central role in the model.

Schiff and Moore (2006) conducted a similar study based on a similar concept. This study examined the impact of traditional sweat lodge ceremonies in First Nation people and various facets of well-being. 'First Nations' is a collective term which is used in reference to the Indigenous people of Canada. The authors gathered data through two surveys to measure four dimensions of well-being (i.e., physical, mental, emotional, and spiritual) in individuals who self-selected to attend the sweat lodge ceremony. The surveys were administered prior to the ceremony itself, and after it had been completed. Forty-two responses were received, of which 39 were usable. Schiff and Moore found that of the four dimensions of well-being, the spiritual and emotional health of the participants experienced significant positive increase which was directly linked to the ceremony.

Researchers studying social support and its impact on health and mental health have indicated that it isn't necessarily enough to simply have a social network in place in the generic sense; the quality of such networks are important as well. Fiori, et al. (2006) looked at seniors aged 60 and over who participated in the Americans Changing Lives study. Participants included 1,669 elders meeting the age requirement. The authors were

identified within their sample different types of social networks as described by Litwin (2001). These included:

- Nonfamily-restricted – social networks with extremely limited social ties.

- Nonfriends – social networks characterized by infrequent contact with friends.

- Family – networks defined by frequent contact among family members.

- Friends – networks with frequent contact from friends.

- Diverse - not dominated by any particular type of member.

Researchers found that seniors in the nonfriends social network group had the most depressive symptomatology; those in the diverse social network group had the least. However, when the support network had higher perceived 'quality' of relations – that is, relationships are supportive, as opposed to critical or negative – the association between network type and depressive symptomatology was partially mediated.

Implications for Indian Country

As stated prior, given the established impact of social support on mental health and overall well-being, service providers, advocates, and families caring for elders would be well served by research examining such phenomena occurring in American Indian populations. Cultural factors, rurality, and many other factors play a part in the overall health and well-being of AI/AN seniors, and as such, should be considered in studies with these populations. Few studies have been conducted which focus in particular on AI/AN populations. Given the complex care delivery systems and projected population increase for AI/ANs, research exploring prevention and protective factors is timely and informative.

American Indian seniors are one of the fastest growing elderly populations in the United States, with populations expected to roughly double in the next 50 years (Smyer, 2007). The presence of higher rates of chronic disease, increased health disparities, and issues of access to long term care warrant a better understanding of matters related to healthy aging in Indian Country.

CHAPTER III

METHODOLOGY

Design/Analysis

The research questions guiding our study will be as follows:

Question one: What are the characteristics of our population and subsets? Define descriptively the characteristics of the population in the data set being used; that is, American Indian elders age 55 and older.

Question two: Does an association exist between social engagement and mental health self-perception?

Hypothesis one: A higher level of social engagement will be positively associated with higher levels of mental health. Elders with greater social engagement will have better mental health self-perception. Given the protective nature of social engagement in majority populations, it is thought that the phenomenon will continue into our study population.

Question three: Does an association exist between social engagement and self-assessed general health status?

Hypothesis two: A higher level of social engagement will be positively associated with higher levels of general health. Elders with greater social engagement will have higher levels of general health self-assessment.

The analysis for question two will be a regression with the independent variable of 'social engagement' and a dependent variable of 'emotional health'. The analysis for

question three will be a regression with the independent variable of 'social engagement and the dependent variable of 'self-assessed general health status'. The social engagement variable will be constructed using a number of measures within the survey. For social engagement, the variables assessing times per month attending various spiritual and social events (Appendix 1, questions 37 and 38) will be combined to create a measure of engagement. These variables are "How often do you attend traditional ceremonies?", "How often do you attend church or religious services?", and "How often do you attend meetings, clubs, or organizations that you belong to? (besides tradition ceremonies or religious meetings)?"

The mental health variables will also be combined to give us a measure of mental health. These variables include self-reports of how much time respondents were happy ("During the past month, how much of the time were you a happy person?"), calmness ("How much of the time, during the past month, have you felt calm and peaceful?"), nervousness ("How much of the time, during the past month, have you been a very nervous person?"), downheartedness ("How much of the time, during the past month, have you felt downhearted and blue?"), and cheerfulness ("How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?").

Participants

The National Resource Center on Native American Aging conducts a national survey every three years in partnership with participating tribes, Alaska Native villages, and Hawaiian Homesteads. The data from this study were collected from April 2008 to March 2011. Partner sites were solicited by the Administration on Aging and the NRCNAA by email and a letter sent to every eligible Title VI Native American Nutrition

program throughout the nation. Title VI programs are funded to provide elder meals and mobile nutrition programs within tribally designated service areas. These services are provided in both urban and rural settings. This cycle of data collection, referred to as 'Cycle IV', as it was the fourth cycle of data collected since the inception of the NRCNAA, ended with an N of 18,078 elders. A total of 166 American Indian, Alaska Native, and Native Hawaiian organizations and tribes (referred to as 'sites') participated in this cycle. These sites represent 303 tribes total for the cycle. The differentiation between 'sites' and 'tribes' is made because a singular site may represent more than one tribe or tribal organization.

The NRCNAA designates 'elder' status as AI/ANs age 55 and older. Many partner sites recognize 'elders' at different ages, and thus were allowed to submit data for analysis at the age limits they recognize as 'elder'.

<div align="center">Instrument</div>

The Administration on Aging funded the NRCNAA to create and assist in administering a standardized survey instrument (McDonald, 2003) which could be used by American Indian tribes in collecting elder data.

The NRCNAA needs assessment survey instrument is a four page scanner-ready document originally developed by Ludtke (McDonald, 2003) (Appendix 1). The instrument is a battery of 67 questions with sub-questions, assessing general health status, activities of daily living, vision, hearing, & dental, screening, health care access, tobacco & alcohol usage, weight & nutrition, social support/housing, demographics, and social functioning. For the purposes of our study, we will focus on the questions dealing with general health status, gender, marital status, depression diagnosis, attending traditional

ceremonies, attending church or religious services, attending meetings, clubs, or organizations besides traditional ceremonies or religious meetings, living with family members, non-family members, or alone, size of household, and self-assessments of mental health (happy person, feeling calm and peaceful, nervousness, feeling downhearted and blue, (feeling down in the dumps).

The general health status question was a categorical self-assessment asking the following: "Would you say your health in general is excellent, very good, good, fair, or poor?" Demographic measures included in our study included gender, age, and a 'Current marital status' variable, which was a categorical variable with the following categories: 'Married or living with partner', Single, never married', 'Divorced or separated', and 'Widowed'. Participants were also asked their personal annual income ('Under 5,000', '$5,000-$6,999', '$7,000-$9,999, '$10,000-$14,999', '$15,000-19,999', '$20,000-$24,999', '$25,000-$34,999', '$35,000-$49,999', '$50,000 or more') and highest grade or year of school completed (Never attended or kindergarten only, Elementary, High School, College/Technical School, Graduate/Professional School). Zip code and county were recorded and Indian status ('Are you American Indian, Alaska Native, Native Hawaiian, or other?'), residence on Indian land ('Do you reside on/in a reservation, trust land, Alaska village or Hawaiian homeland?'), length of residence ('How long have you lived on/in a reservation, trust land, Alaska village or Hawaiian homeland?'), enrollment ('Are you an enrolled member of a federally recognized tribe?'), tribal affiliation, and military service.

The Body Mass Index (BMI) is derived using a formula using the height and weight questions:

$$Weight (lbs)* 703/(Height[in])2$$

It is important to know the BMI of an individual because this is the means by which it is determined if a person falls into various weight categories, including low/normal weight (up to 24.9), Overweight (25-29.9), Obesity (30 or greater) (National Institutes of Health, 1998). BMI was calculated using self-reported measures of height and weight. In general, people tend to over-estimate their height and under-estimate their weight (Taylor, et al., 2006, Dijkshoorn, et al., 2011).

The depression diagnosis question consisted of a self-report option in an array of conditions participants were able to check as applied to them. The question was as follows: "Has a doctor ever told you that you had any of the following diseases . . . (Please mark all that apply)." The social support questions included a count of times per month respondents attended traditional ceremonies ("How often do you attend traditional ceremonies?), attended church ("How often do you attend church or religious services?"), and attended other functions ("How often do you attend meetings, clubs, or organizations that you belong to [besides tradition ceremonies or religious meetings]?"). These interval/ratio variables were converted to categorical variables as follows: 0 times per month, 1-2 times per month, 3-4 times per month, 5-8 times per month, and 9 times or more per month.

The survey also asked respondents "Are you living with family members, non-family members, or alone?" Responses were categorical and included with family members, with non-family members, with both family and non-family members, and alone. The number of family members in a household was also enumerated.

The mental/emotional state of participants was assessed for the month prior to filling out the questionnaire. These questions included a self-report of how much time respondents were happy ("During the past month, how much of the time were you a happy person?"), calmness ("How much of the time, during the past month, have you felt calm and peaceful?"), nervousness ("How much of the time, during the past month, have you been a very nervous person?"), downheartedness ("How much of the time, during the past month, have you felt downhearted and blue?"), and cheerfulness ("How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?"). Each of these questions was categorical, with the following responses available: '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'.

Administration of Surveys

Each of the data collection cycles is three years long so ostensibly, partner sites are able to conduct their needs assessments for the upcoming funding cycle at any time in the three years prior, and it will be considered current. Partner sites are typically notified via email and postal mail that they need to conduct a needs assessment for their Title VI grants, and are directed to the NRCNAA for assistance in completing this work. They will then contact the NRCNAA and work with them to complete the steps needed for their survey. Tribal approval for conducting surveys is obtained by the elder program or Title VI personnel working with the NRCNAA. Most often, approval for the survey comes in the form of a tribal resolution from the respective participant's tribal council. NRCNAA provide training for people local to a given participant, in interviewing and surveying. A local approach is seen as ideal, as it lends itself to a more robust response

from interviewees. Further, having local people doing the data collection addresses issues of language and cultural barriers and customs that non-locals may not be aware of. The ease and comfort of the elder interviewee is foremost in the mind of the NRCNAA staff.

Once initial contact is made with a partner site, the NRCNAA requests the compilation of a list of elders from said participant's service area. These lists provide the base from which a sample of elders is drawn. To protect the privacy and autonomy of the individual participants, the NRCNAA does not require that the list be submitted to our offices, and does not maintain identifiers of individual interviewees during the survey process. The partner site may, as they choose, decide to keep their list, and instead send a count of elders from which the NRCNAA draws a sample.

Given the diverse nature of the many participating tribes and organizations, the final dataset is not seen as a single representative sample of U.S. Native elders, but rather an aggregation of representative (in many cases, convenience) samples from participating tribes. This is likely one of the largest samples of Native elders in the United States (McDonald, 2003).

Our primary means of accessing the individual elders who took our survey was through the local providers at each partner site, who were trained by our staff in data collection methods. These partner sites gained permission to conduct the survey in their communities via tribal resolution or executive order from their tribal governments. The NRCNAA provided draft tribal resolutions for partner sites to use, which described the project, the purpose of the project, and the partnership entered into with the NRCNAA if the tribe elected to participate. The NRCNAA required that any partner site wishing to participate gain this permission prior to releasing surveys to sites. For those partner sites

with their own Institutional Review Boards, IRB approval was accepted in lieu of tribal council approval, as appropriate.

Permission was gained from the University of North Dakota Institutional Review Board to conduct this work under the project title "Health and Social Needs Assessment of Native American Elders" (IRB-200712-139). This ongoing project is reviewed annually for updates to protocol, changes in the number of subjects, a summary of findings, and/or changes or additional risks. The project for this dissertation obtained additional IRB approval (IRB-201106-354) under project title "Social Engagement and Mental Health in American Indian Seniors," and permission to use the data from the Center for Rural Health at the University of North Dakota School of Medicine & Health Sciences, and tribal resolutions obtained by partner tribes.

The NRCNAA provided training for potential partner sites upon request through several formats; online, in-person, or training manual. The in-person format typically coincides with national forums sponsored by the funding agency, the Administration on Aging (AoA). The AoA is the Federal agency responsible for moving forward the concerns and interests of older people and their caregivers nationwide. The AoA holds regional and national forums throughout the year, inviting Title VI program participants across the country to various trainings and workshops. The NRCNAA hosts two or more workshops for participants at these forums, in which potential partner sites learn about the data collection process, how to get involved, who to contact, and the benefits of participating, among other things. Our office also offers the training remotely, via teleconference or webinar, for those audiences for which distance and travel are a difficulty. During the last data collection cycle (2008-2011), the training was offered

27

seven times, through in-person seminars, webinar, and teleconference. Further, the NRCNAA hosts a toll-free telephone number to our offices, and 'troubleshooting' services for partner sites at any stage in the survey process.

In August of 2010, the AoA released a letter to Title VI sites, informing them of their need to complete their assessments prior to the submission of their Title VI grant renewals, the deadline for which was November 30, 2010. We end the data collection period with the highest number of participants of any cycle. 18,078 Native elders from across the country took our survey, and 302 tribes, Alaska Native villages, and Hawaiian homesteads total were represented at the end of our data collection cycle, which closed March 31, 2011.

This paper contains the results of an analysis of 18,078 Native elders from 302 tribes, Alaska Native villages, and Hawaiian homesteads. A sample of elders was drawn from each participating tribe or tribal organizations of eligible adults to participate in the survey, and the self-reported data was gathered by collectors local to the areas from which they were collected. The sampling design employed for large tribes was a systematic random sampling system; for tribes with 200 or fewer members, an enumeration was employed.

Purpose of the Study

The purpose of this study is to assess the relationship between social factors and the health of American Indian elders aged 55 and over. First, a descriptive analysis of the population surveyed; that is, American Indian elders aged 55 and older, was conducted. Secondly, we examined our variables to find out if an association exists between our

social engagement and mental health variables. Does social engagement impact emotional state in American Indian and Alaska Native elders?

Significance of the Study

The American Indian, Alaska Native, and Native Hawaiian elder population is projected to grow exponentially in coming decades (Administration on Aging, 2009). The AI/AN/NH elder population accounts for a small percentage of the overall elder population in the U.S., however they bear disproportionate disease burden over and above other racial and ethnic minorities. Chronic conditions such as depression are of concern for Native people and care providers to understand the need for more and better health care and preventive services in Indian Country. Further, potential protective factors for the well-being of Native or other elders can be explored and supported, as they are identified. Safran, et al. (2009) identified American Indians and Alaska Natives as a group facing unique mental health disparities. This study addresses this concern by assessing if associations found in mainstream U.S. elderly populations are also found in AI/AN elderly populations.

Delimitations of the Study

Our study focuses on AI/ANs age 55 and older living in the United States. The study population included elders living on and off reservations, Indian communities, and Alaska Native villages. Age 55 was set as the lower age limit because many AI/ANs exhibit similar chronic diseases and health complications as whites aged 65 and older (McCabe, 2005).

Limitations of the Study

This study has a number of limitations. First, the data are cross-sectional. Older adults of any ethnic background experience health and change in health status over time. Our findings on self-reported mental and emotional health states are given at the time the data were collected; a 'snapshot' of health status as it were, so we are unable to capture dynamic changes or examine causality. Secondly, the partner sites in our survey self-selected, thereby giving us a database of participants who opted in, as opposed to having been chosen via sampling method. Lastly, though all partner sites received training and assistance in sampling and sample selection, once the survey instruments left our offices, it was essentially left to the data collectors to choose elders who would participate. While some of our partner sites did attempt to achieve a representative sample of their elders, many opted for convenience sampling, by interviewing elders who attended community meals or functions for example, to fulfill their survey requirements. It is unknown at this time what percentage of participants opted for alternative means of data collection.

CHAPTER IV

RESULTS

In the first phase of the analysis, to answer the first of the research questions a

descriptive analysis was conducted on the "Identifying Our Needs: A Survey of Elders

IV" elder dataset. Upon completion of data collection, the data was entered into

Predictive Analytics SoftWare (PASW) 18 for analysis. Descriptive analysis is the first

stage of study for our data set, providing basic percentage response for our population.

Table 1 gives the findings of this analysis. Comparison statistics for the general

population were determined based on questions found in surveys conducted in larger

general population surveys. For example, Demographics, Body-Mass Index, and General

Health Status were drawn from the National Health and Nutrition Examination Survey

(NHANES) for U.S all races. The NHANES data is a program of studies designed to

assess the health and nutritional status of people in the United States. The NHANES

interview includes demographic, socioeconomic, dietary, and health-related questions

(NHANES, 2012). Tables 1, 2, and 3 give results of the NRCNAA national needs

assessment results for AI/AN elders, and comparison national frequencies to give context

to our variables.

"Demographics" was a category of variables included in the needs assessment,

and the demographic variables included in this section were "Gender", "Age", which was

subsequently re-coded in SPSS to "Age Groups", "Reside on a reservation/trust

land/Indian community", "Marital status", "Personal Annual Income", "Highest Grade of

School Completed", "Employed Past 12 Months", "Are you American Indian, Alaska

Native, Native Hawaiian, or Other", "Are you an enrolled member of a federally

recognized tribe?", and "Have you ever served on active duty in the U.S. Armed Forces,

military Reserves, or National Guard?". "Zip code" was also included as a nominal

variable, and "Tribal Affiliation" was included as a string variable.

Separate descriptive variables which are important indicators of the health status

of this population can be derived from the information gathered within these variables.

Frequencies were determined for all of the questions in the 'Identifying Our

Needs' survey, however this study will focus primarily on our primary questions and

their variables, and demographic characteristics of this population. The demographic

characteristics of the study population are given in Table 1.

Table 1.Demographics

Characteristic	N	%	National
Gender			
Male	6,572	37.6	37.3
Female	10,918	62.4	62.7
Age			
55 to 59	2,499	14.9	23.3
60 to 69	7,376	43.8	36.1
70 to 79	4,754	28.3	26.2
Over 80	2,196	13.1	14.3
Marital Status			
Married or living with partner	5,909	41.8	52.4
Single/never married	1,585	11.2	5.0
Divorced or separated	2,776	19.6	16.6
Widowed	3,876	27.4	25.8

Table 1. Cont.

Characteristic	N	%	National
Reside on a reservation/trust land/Indian community			
Yes	11,537	69.8	NA
No	4,992	30.2	NA
Personal Annual Income			
$0-$9,999	6,211	39.5	5.7
$10,000-$14,999	2,698	17.1	7.3
$15,000-$19,999	1,768	11.2	8.1
$20,000-$24,999	1,555	9.9	9.7
$25,000-$34,999	1,512	9.6	12.3
$35,000-$49,999	1,112	7.1	13.2
$50,000 or more	885	5.6	25.5
Employed Past 12 Months			
Full-time	3,344	20.9	32.4
Part-time	1,731	10.8	NA
No	10,950	68.3	67.2
Highest grade or year of school completed			
Never attended/kindergarten only		0.1	0.2
Elementary		17.0	5.5
High School		56.9	40.8
College or beyond		26.0	53.1

Over half of the respondents were female (62.4%), which was fairly comparable to national statistics (NHANES, 2003-2006) for AI/ANs. Also, over half of respondents fell into the first two age categories, indicating a 'younger' age population. The number of Native elders indicating single/never married status was more than double (11.2%) that of the general population respondents (5.0%).

The majority of respondents indicated living on or near a reservation/trust land/Indian community (69.8% vs. 30.2%). Personal Annual Income results were collapsed to better match NHANES comparison data. The first three categories available to NRCNAA respondents were combined (Under $5,000, $5,000 to $6,999, and $7,000 to

$9,999). Of those responding to the income question, 39.5% indicated an annual income of $9,999 or less.

The 2011 U.S. Department of Health and Human Services poverty guideline for a single person household in the continental U.S. is $10,890; for Alaska, $13,600, and Hawaii, $12,540 (DHHS, 2011). Compared to NHANES general population data (5.7%), those indicating poverty or lower income levels occurred nearly eight times more often amongst AI/AN elders in the NRCNAA survey. Over half of respondents to the income question were in the lowest two categories of income in the response scale (39.5% and 17.1% respectively).

General population employment data was given in combination for full and part time work. Elders within the NRCNAA dataset were far more likely to indicate 'no' work (68.3%) over full or part time employment.

The question 'Highest Level of Education Completed' results showed respondents indicating 'Elementary' (17.0%) almost three times as often as their general population counterparts (5.5%, NHANES, 2003-2006); further, general population respondents for 'College or beyond' (53.1%) were nearly twice that of NRCNAA respondents (26.0%).

Body Mass Index (BMI), a predictor of various health factors, is a measure determined and reported in the NRCNAA data for participants using their self-reported weight and height. The formula for determining BMI is given on page 28. These variables were determined for this population and their categories are shown in Table 2.

Table 2. Body-Mass Index

BMI	NRCNAA Data (%)	National Data (%)
Underweight/Normal	21.5	33.8
Overweight	33.1	37.3
Obese	45.5	24.6

Body-Mass Index when compared to national numbers indicates higher rates of Obese and Overweight among the NRCNAA survey respondents. Underweight /Normal was less than the national average. Body-Mass Index is a commonly used screening method for weight categories which may lead to health problems (NIH, 1998). Overweight and Obese individuals have an increased risk of a number of diseases and chronic conditions, including hypertension, Type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, and some cancers (CDC, 2012). For this group, about half of respondents' height and weight indicated that they were obese, as compared to about a quarter of the general AI/AN (?) population (NHANES, 2003-2006). This places respondents in the higher risk category for developing any number of chronic conditions and diseases.

Table 3. Self-Report General Health Status

Response	NRCNAA Data (%)	National Data
Excellent	5.1	13.9
Very Good	18.4	27.8
Good	37.7	31.9
Fair	29.7	17.3
Poor	9.1	8.5

As shown in Table 3, AI/AN elders taking the NRCNAA survey rated their

general health 'Excellent' at almost 3 times lower than the national average (NHANES

2003-2006) 'Very Good', about a third less than the national (NHANES, 2003-2006). For

the most part, AI/AN answered in the 'Good' or 'Fair' categories, which combined make

up 67.4% of respondents, as compared to 49.2% of the same combination of general

population respondents.

Perceived general health status is important in that it has been found to be a good

predictor for survival and future health; even more so than the health rating given by a

physician (Kivinen, et al., 1998). Further, lower socio-economic status and lower

education has been found to be associated with poorer self-assessed health status in

mainstream elderly populations (Mossey, 1982).

Participants were asked "Has the doctor ever told you that you had any of the

following diseases? (Please mark all that apply)". Chronic conditions were a self-report

item. Respondents had a list of chronic and other conditions and diseases available to

them as reported in Table 4.

Table 4. Chronic Conditions

Question	Response	Result (%)	National Data
Has the doctor ever told you that you had any of the following diseases? (Please mark all that apply)	Arthritis	45.7	48.2
	Congestive Heart Failure	10.4	8.2
	Stroke	8.3	6.6
	Asthma	12.7	12.1
	Cataracts	21.6	40.2
	High Blood Pressure	57.6	56.7
	Osteoporosis	10.6	4.6
	Depression	13.8	16.2

Table 4. Cont.

Question	Response	Result (%)	National Data
Has the doctor ever told you that you had any of the following diseases? (Please mark all that apply)	Diabetes	39.5	16.8
	Prostate cancer	5.8	7.9
	Colon/Rectal cancer	1.2	1.9
	Lung cancer	0.7	0.7
	Breast cancer	2.3	2.7
	Cervical cancer	1.9	0.3
	Other cancer	2.5	8.6

Comparison data for chronic conditions was taken from the 2003-2006 NHANES survey (CDC, 2003-2006). Information for the osteoporosis question was taken from the 1999-2004 NHANES (CDC, 1999-2004).

While many of the conditions listed had numbers relatively close to the national averages, NRCNAA survey participants indicated diabetes more than two times as often as that of their mainstream counterparts (39.5% vs. 16.8% respectively). This finding is similar to other the findings of the Indian Health Service (IHS) and the CDC (2007), who report rates of diagnosed diabetes in AI/ANs at nearly twice that (16.1%) of the general population in the United States (8.3%). Diabetes is easily one of the biggest threats to the health of AI/AN populations, and rates vary from region to region and tribe to tribe, with 5.5% of Alaska Native adults with diagnosed diabetes, and rates up to 33.5% of American Indian adults in the southwest.

The Social Functioning variables yielded results as described in Table 5. The questions were recorded as a count; these were then re-coded in SPSS into categories. These questions are particular to the NRCNAA survey, and thus have no comparison data from national datasets, as indicated.

Table 5. Social Functioning

Question	Response	Result (%)	National Data
How often do you attend traditional ceremonies?	0 times per month	58.2	
	1-2 times per month	28.4	
	3-4 times per month	8.4	NA
	5-8 times per month	2.5	
	9 or more times per month	2.4	
How often do you attend church or religious services?	0 times per month	49.9	
	1-2 times per month	16.2	
	3-4 times per month	22.3	NA
	5-8 times per month	6.7	
	9 or more times per month	4.9	
How often do you attend meetings, clubs, or organizations that you belong to (besides traditional ceremonies or religious meetings)?	0 times per month	56.2	
	1-2 times per month	23.2	
	3-4 times per month	11.2	
	5-8 times per month	4.8	NA
	9 or more times per month	4.6	

Over half of respondents to each question had not engaged in any activities regarding our query (58.2%, 49.9%, and 56.2% respectively). For traditional ceremonies, respondents who did indicate activity, most often indicated 1-2 times per month (28.4%). This is also true for attending club meetings or organizations (23.2%). Those indicating church attendance fell primarily into the 3-4 times per month category (22.3%).

Mental health questions were also reported, and analyzed. Their frequencies are listed below in Table 6.

Table 6. Mental Health Self-Assessment

Question	Response	Result (%)	National Data
During the past month, how much of the time were you a happy person?	All of the time	20.5	
	Most of the time	47.6	
	A good bit of the time	14.1	NA
	Some of the time	13.3	
	A little of the time	3.8	
	None of the time	0.8	
During the past month how much of the time have you felt calm and peaceful?	All of the time	16.6	
	Most of the time	43.7	
	A good bit of the time	16.1	NA
	Some of the time	16.4	
	A little of the time	5.7	
	None of the time	1.5	
During the past month how much of the time have you been a very nervous person?	All of the time	1.6	4.8
	Most of the time	4.1	0.7
	A good bit of the time	4.5	3.4
	Some of the time	19.5	5.0
	A little of the time	32.5	28.0
	None of the time	37.7	55.6
How much of the time during the past month have you felt downhearted and blue?	All of the time	1.1	3.3
	Most of the time	3.4	0.6
	A good bit of the time	4.4	2.9
	Some of the time	19.4	3.4
	A little of the time	34.9	21.5
	None of the time	36.9	65.8
How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?	All of the time	0.8	
	Most of the time	2.4	
	A good bit of the time	2.4	NA
	Some of the time	10.5	
	A little of the time	18.7	
	None of the time	65.2	

As available, comparison numbers for U.S. general population are given. These numbers were drawn from the 2006 Behavioral Risk Factor Surveillance Survey (BRFSS) (CDC, 2006). The BRFSS question used for comparison for the 'nervous' question was "During the past 30 days, for about how many days have you felt worried, tense, or anxious?" and translated number of days into matching categories for NRCNAA

data. Likewise, the BRFSS question used for comparison for the NRCNAA 'downhearted and blue' question was "During the past 30 days, for about how many days have you felt sad, blue, or depressed?" and translated number of days into categories.

These questions assess two separate mental health phenomena; depression and anxiety. Depression and anxiety are different, though they share similar traits, and people who have depression can also experience symptoms of anxiety, and vice-versa (Barbee, 1998).

The majority of respondents to the NRCNAA question "During the past month, how much of the time were you a happy person?" fell in to the top two categories, "All of the time," and "Most of the time" (20.5% and 47.6% respectively). The same is true for the question "During the past month how much of the time have you felt calm and peaceful?" (16.6% and 43.7%). The remaining measures assessed anxiety and depression on something of a reversed scale from the first two questions; respondents were asked how much of the time in the past month they had experienced a given symptom ("During the past month how much of the time have you been a very nervous person?", "How much of the time during the past month have you felt downhearted and blue?", "How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?").

<div align="center">Mental Health and Social Support</div>

The next phase of this analysis involved focusing on the social support indicators and their association, if any, with the self-assessed general health status, and self-rated mental health indicators.

Question two of the analysis sought to find if social engagement was associated with self-assessed general health status. To answer this question the social engagement variable first had to be created. This was done through a summation of the social engagement variables, which gave counts of the times participants engaged in a given activity in the past thirty days. The created variable was labeled 'socEngSum'.

The 'direction' of the general health question was recoded and reversed, giving the positive responses (Excellent, Very Good, Good) the higher number code, and the negative to neutral responses (Fair, Poor) lower number codes. This variable was titled 'HealthRec'. For the general health question, both variables were entered into a linear regression with the dependent variable being 'HealthRec', and the independent variable 'SocEngSum'. The findings for this analysis are below in Table 6.

Table 7. Summary of Linear Regression of General Health and Social Engagement

Model	R	R square	B	Std. Error	Beta	T	Sig.
socEngSum	.032	.004	.006	.001	.066	8.46	.000

Linear regression is an analysis technique that assesses the impact a predictor variable – in this case, our created social engagement variable - on a criterion variable (general health). For our analysis, the predictor variable social engagement was shown to be statistically significant with $p<.001$, Pearson correlation r=.032, though the *R square =* .004. R square is a measure which accounts for the amount of variance in the response explained by a model. For this model, an R square = .004 means .4% of variance within general health status is accounted for by social engagement, so several other factors are likely influencing the model. As seen in Table 7, Pearson's correlation (.032 with $p<$ .001) indicated a positive relationship for social engagement and general health, meaning

as engagement increased, so did self-assessed general health status. It should be noted that given our R square values, very little of actual variance is accounted for in our sample; significance may be attributed to other factors, such as sample size.

Fiori (2006) noted that different social groups such as friends, acquaintances, and family members play different roles in the health impact spectrum for individuals, including creating negative impacts such as stress. While this analysis attempted to ascertain if social engagement had an impact on the general and mental health of participants, the impact of family relationships and support was not considered specifically; this could be a focus for future studies. Many AI/AN cultures exist within mainstream U.S. cultures, however they maintain their cultural ties; it would be of interest to explore whether such phenomena exists within these populations, as with research in other ethnic minority populations.

Table 8. Pearson Correlation for General Health and Social Engagement

HealthRec	Pearson Correlation	1	.066
	Sig. (2-tailed)		.000
	N	17739	16579
SocEngSum	Pearson Correlation	.066	1
	Sig. (2-tailed)	.000	
	N	16579	16832

The final question in the analysis asks, does an association exist between social engagement and self-assessed general health status? Answering this question involved a similar model, looking at mental health and social engagement. The mental health questions included a self-report of how much time respondents felt a given way in the past month. These questions included: "During the past month, how much of the time were you a happy person?", "How much of the time, during the past month, have you felt

calm and peaceful?", "How much of the time, during the past month, have you been a

very nervous person?", "How much of the time, during the past month, have you felt

downhearted and blue?", "How much of the time, during the past month, have you felt so

down in the dumps that nothing could cheer you up?" Each of these questions was

categorical on a six point scale, with the following responses available: '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'.

For the purposes of this analysis, two of the five questions were re-coded in SPSS

to reverse the order of the responses depending upon the question. For example, for the

question regarding happiness in the past month, a response of 'All the time', considered

the most positive response, is coded as '1', and conversely, the most negative response,

'None of the time', was coded as '6'.

The question regarding nervousness in the past month was reported on a reversed

scale from the happiness question; a response of 'All the time' (1) would be viewed as

the most negative response, and 'None of the time' (6) the most positive. To better

'match' the results for each of the mental health self-assessment questions, the scale was

re-coded and reversed for the happiness question (happy_r), and calmness (calm_r). This

put the most positive response for these questions on a similar spectrum as the

nervousness, feeling blue, and feeling down in the dumps questions.

Following this, our depression variables were combined to give us an overall

measure of mental health variable (mhComb). The five question results were combined.

With the new variable ready, a linear regression was conducted using social engagement

(SocEngSum) as the independent variable, and the mental health variable (mhComb) as the independent variable. The results of this analysis are listed in Table 8

Table 9. Summary of Linear Regression of Mental Health and Social Engagement

Model	R	R square	B	Std. Error	Beta	T	Sig.
socEngSum	.051	.003	-.014	.002	-.051	-6.43	.000

As before, our results returned statistically significant with $p<.001$, *R square*=.003, thus .3% of variance is accounted for by the model. Again, other factors are likely playing a part in variance of mental health dependent upon social engagement. Pearsons correlation (Table 8) r= .032, which means our variables have a positive relationship, so when social engagement increases, so does mental health, albeit only marginally so, as the correlation is statistically significant at the .05 level. Further exploration into the various factors, such as age cohort, income, education, region, or other variables would paint a more detailed picture of the mental health of our AI/AN elders.

CHAPTER V

DISCUSSION AND CONCLUSION

The purpose of this research was to describe our study population demographically, and then to assess if a relationship existed between social engagement and self-assessed general health and mental health in the study population. The population was a sample of 18,078 AI/AN elders from throughout the United States. Demographically, the study population reflected the characteristics of similar AI/AN populations found by other research (Smedley et al., 2003, Denny, 2005; Easley & Charles, 2004; Satter, 2010). Elders from this study had relatively high rates of diabetes, hypertension, osteoporosis, congestive heart failure, stroke, and asthma, compared to US general population survey data (NHANES). Over half of respondents indicated annual yearly income of less than $10,000, placing them well below poverty level. Education levels, when compared to NHANES data, indicated less college level or higher education than general populations. Poorer physical health (e.g., high rates of chronic disease as in our population) and mental health reflected findings of other researchers on similar populations (Giyeon et al., 2012). Thus, this population faces a number of challenges in regards to access, services, and health and well-being, and they are living and aging in a number of contexts.

The basis for the social engagement research questions was drawn from research in other populations showing an association between social engagement factors and self-assessed

health status (Fiori, 2006; Litwin, 2001; Seeman, 2000). In both analyses, social engagement had a statistically significant relationship with general and mental health, though the effect size was very small. This is in contrast to previous studies (Fiori, 2006; Litwin, 2001; Seeman, 2000) which found stronger relationships between social engagement and health.

As previously discussed, research has been conducted in non-AI/AN populations regarding the impact of social support on various aspects of overall health. Perceived social support has been shown to be associated with higher cognitive function in community dwelling seniors (Yeh, 2003). Social support and quality social support networks are protective factors for depression (Fiori, et al., 2006) and improve overall well-being (Ruthig, 2009). Okabayashi (2004) showed the relationship between health and family relationships, placing it in the context of Japanese culture, where heavy emphasis is placed on the relationships older people have with their children. The more interaction Japanese seniors had with their grown children, the better the seniors rated their own general health and well-being.

This study was unable to establish a strong relationship between mental health, general health self-assessment, and social engagement as in Litwin (2001) and Fiori (2006). While our analysis for both questions returned statistically significant, the effect size was very small, indicating very little of the variation in the population could be attributed to our model. There are several possible factors influencing these results.

Though in this study the objective was to examine whether a relationship existed between social engagement and mental and general health self-assessment, the question of the quality of relationships that Native seniors have, whether they are family or

46

friendship, was unable to be addressed. It may have been that within this study elders

rated relationships with children and family along with loose acquaintances. Should

relationships which require more 'investment' from the individual differ in their impacts

on the mental and general health of the elders, as these studies suggest, it likely would not

have been reflected in these findings. Further research into this question in this

population would make a worthy project for the future.

One can speculate various reasons as to why a stronger relationship was not found

in this study; our sampling method may have been one issue. While the NRCNAA

stresses the importance of a random sample and demonstrates means by which to draw

one for participants in the survey, in the end there is a heavy reliance upon tribes opting

to use the NRCNAA's survey process.

Given the size of the data set (N=18,078), the potential for 'noise' in the analysis

is present. Though the population we draw our data from to some would seem to be the

'same', we are actually drawing from a population with myriad differences, and not just

geographically. Alaska Native villages have very different lifestyles, care delivery

systems, and access to services than say a Southwest Pueblo might. Differences occur

from urban to rural, large tribal groups to small, Northern Plains to Pacific Coast. Perhaps

another analysis separating these populations by rurality, size, or geography might give a

different result than the ones described in this project.

Question two of the analysis, social engagement and mental health self-

perception, looks at an interesting phenomenon being studied in different elder

populations around the world. As seen in the literature review, social networks have an

impact on health status and feelings of loneliness (Cox, 1988), performance in recovery

programs (Chang & Lopez, 2005), and depressive symptoms (Fiori, 2006). Social networks have been shown to protect against memory loss in aged adults living in long term care settings in mainstream populations (Ertel et al., 2008). Schwarzbach (2012) notes however, that social engagement and health studies in elder populations appear to have inconsistent results. Quantitative studies (those studies which assessed simply if social integration and relationships existed) appeared to have more inconsistent results; qualitative studies (those which looked at the quality of social relationships and engagement) had more consistent results. As our study was far closer to the former, it could be speculated that a different type of assessment tool used amongst AI/AN elderly respondents might give different results.

American Indians and Alaska Natives are some of the least studied groups in the United States (Giyeon, 2012). AI/ANs also live with some of the biggest health disparities of any population (Grandbois, et al., 2012). Though they represent a small percentage of the whole, they also represent a rapidly growing group who live within very diverse, unique contexts. On a day to day basis they deal with complex systems of care, lack of infrastructure and services, issues of rurality, and higher burdens of disease and disparity than most other ethnic minorities in the U.S. Understanding these contexts for Native Nations participating in this survey is critical for their self-determination and contributes to effectively exercising sovereignty. In order to successfully provide sustainable solutions, one must first understand the problems that exist within a society. This study helps its participants to begin to address this need.

With increasing populations of elderly comes the issue of how to provide for them as they grow. The results of the NRCNAA elder survey data allows its participants to

identify the issues within their respective communities, and provides the documentation needed for advocacy when approaching federal/state/tribal funding sources. The survey and training, technical assistance, and publications provided by the NRCNAA are designed to provide a basic understanding of the importance of research in an applied sense, for service providers at every level. Following practical application, given the paucity of research regarding elderly AI/ANs, determining research priorities is an important step towards empowering and strengthening tribal communities and effectively exercising their sovereignty. The results of the analysis contained in this study established baseline demographics for AI/AN elders throughout the country; it then explored potential relationships between social engagement and general and mental health self-assessment. While the findings were statistically significant, the size of the effects were not practically significant; further research is needed to determine if and what other factors are influencing the study, their practical applications, and any directions this suggests for future research. To better understand this particular population and the questions posed in this study, qualitative study in the form of focus groups or individual interviews might give better insight into the quality and type of social engagement AI/AN seniors are experiencing. Such information could lead to recommendations for intervention strategies for AI/AN elder populations to prevent mental and general health issues and mitigate existing ones.

The data itself is not without practical use, despite the results given herein. Baseline information is given for AI/AN elders across the nation, gathered of their own volition and using their own resources. Past iterations of this survey have been used to advocate and inform policy makers on the status of AI/AN elders (Ludtke, McDonald, &

Allery, 2006;McDonald, 2003; Ludtke, McDonald, & Allery, 2005; Baker-Demaray, McDonald, & Allery, 2008) and for developing training and resources (Betting et al., 2009; NRCNAA, 2004, 2003; McDonald, Ludtke, & McDonald, 2005). As elder AI/AN populations increase, so too will the need for improved care, care options, and assessment for the need of care.

This study shows that the need for further research still exists, given the results of our analyses. As seen in the demographic analysis, the study population has very high rates of obesity, overweight, diabetes, and other chronic conditions. This echoes similar results amongst American Indian populations that have previously been studied (Denny, 2005; John, 2003; Moulton, 2005; Liao, 2005). This population also indicates very low socioeconomic status. Williams (2001) found that low socioeconomic status is a greater predictor of health outcomes than race or lifestyle. Given the extreme poverty many of the NRCNAA survey participants indicated, it can be speculated that their socioeconomic status plays no small role in their overall health.

With lower socioeconomic status and education levels than general populations, these populations present a higher risk for depression and many other chronic conditions; it is the proverbial vicious cycle, with each factor feeding into the next. It could be speculated that conditions such as diabetes, arthritis, heart disease, hypertension, and obesity are comorbid with depression.

Goins (2011) findings reflect much of what we see in the demographic profile of our population in this study; that is, high rates of chronic disease and low socioeconomic status. Thus, further research assessing the rates of depression within this population could be warranted.

Goins (2011) explored comorbidity in American Indian seniors aged 55 and older and found that they experienced higher rates of hypertension, diabetes, back pain, and vision loss compared to their similar aged general population peers. Goins also found that higher comorbidity scores were correlated with older age, poorer physical functioning, and more depressive symptomatology. Thus, it is not unknown in older AI/AN populations; interventions for these populations could and should be considered to improve health outcomes for AI/AN elders. Further, prevention and health promotion efforts should be explored and put into place for this rapidly expanding group.

Understanding the complex and storied history of the American Indian, their relationship with the U.S. government, and the American Indian experience helps providers and researchers understand the context the modern American Indian lives in today. Historical trauma theory (Sotero, 2006) states that populations subjected to "long-term, mass trauma-colonialism, slavery, war, genocide-exhibit a higher prevalence of disease even several generations after the original trauma occurred" (pg. 1). It manifests itself in various ways in AI/AN populations, through social issues and mental health, physical health disparity, and lower life expectancy.

Life expectancy for all twelve Indian Health Service areas is lower than the U.S. general population (IHS, 2006). Given the low socioeconomic status, and lower education status, and higher chronic disease rates found in the demographic analysis of the NRCNAA data, these statistics appear to echo Sotero (2006) and Williams (2001) work.

One facet of these analyses that was not examined as deeply and may have had an impact on the results was the impact of traditional culture and belief systems. Capturing

and defining what is 'traditional' in modern AI/AN cultures can prove difficult, particularly considering the fact that there are 562 federally recognized tribes extant in the United States. Native people in the United States live on a 'spectrum' of what is thought of as traditional in their various tribes, and a few cultural universals do manage to weave themselves into the fabric of AI/AN life. View of oneself as a part of a whole community is one value which departed from the western view of individualism; another key cultural difference was the various worldviews which tied oneself to earth and the natural world not with the idea of conquering or overcoming, but of enmeshing and existing in harmony, as all things are related (Deloria, 1973). These concepts have survived into modern culture. Examining the impacts of traditional AI/AN belief systems and practices on various aspects of AI/AN elder health can have practical applications for care providers. Care systems can be structured to address the particular needs of a population; for example, providing access and resources for AI/AN elders who lean more towards traditional belief systems equal to that of elders who trend more towards more mainstream, Christian or western belief systems as a means of improving overall health for all.

Future Research

UC Davis (2011) stresses the importance of delivering mental health prevention tools and services in a holistic manner, addressing not only individuals, but family, extended family, spiritual leaders, and support systems within the community. Prevention and treatment systems must include the traditional approaches of the community, including ceremonies and language; practitioners must be cognizant of language and other barriers and work to address these issues in partnership with tribal people. While

the findings of this study did not indicate a strong link between social engagement and general and mental health self-assessment, future research could focus solely on traditional cultural practices and various aspects of health, including general health self-assessment and mental health indicators. Social engagement's association with health various health factors could also be explored based on gender, age group, region, income level, and education.

The study population used in this research consisted of an aggregate of American Indian and Alaska Native people from across the United States; it is important to keep in mind the diversity of cultures contained within this sample. Currently there are 566 federally recognized tribes in the U.S. (NCSL, 2012). Traditional cultural practices vary widely from tribe to tribe, as does acculturation and assimilation (National Congress of American Indians, 2011). Ostensibly, tribes who have had longer contact or greater integration with western cultures might have similar demographics and health factors as the general population. Tribes closer to urban centers, or who have more resources may exhibit results closer to general populations on analysis as well. Future studies could separate subjects by region, or as allowed by the tribe, by tribal affiliation. Longitudinal study of a selected group of AI/AN elders could also be incorporated to better understand the interplay of social engagement and health over time.

Ideally, the research and resource development priorities of AI/AN people will be developed by the communities themselves, thus ensuring the most immediate needs and threats are addressed, and the strengths of a community are utilized effectively. Research as a means of exercising effective tribal sovereignty is a critical step forward in addressing the various social and policy issues that exist in Indian Country. For the elders
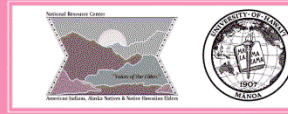
that live in these communities, and for their families, caregivers, and future generations,

identifying and understanding these issues is an important step in strengthening the

elders, and in the end, the whole community.

APPENDICES

Appendix A
Survey Instrument

Identifying Our Needs: A Survey of Elders IV

• Use black or blue pen or a number 2 pencil.
• Make dark marks that fill the oval completely.
     ● Correct

• Do not use pens with ink that soaks through the paper.
• Make no stray marks and do not bend survey.
     ✓ⓧ●⊙ Incorrect

GENERAL HEALTH STATUS

1. Would you say your health in general is excellent, very good, good, fair, or poor?

   ○ Excellent
   ○ Very Good
   ○ Good
   ○ Fair
   ○ Poor

   NUMBER OF TIMES

2. During the past 12 months, how many different times did you stay in the hospital overnight or longer?

3. Has a doctor ever told you that you had any of the following diseases . . . **(Please mark all that apply)**

   ○ Arthritis?
   ○ Congestive Heart Failure?
   ○ Stroke?
   ○ Asthma?
   ○ Cataracts?
   ○ High Blood Pressure?
   ○ Osteoporosis?
   ○ Depression?
   ○ Diabetes?
       ○ Do you take oral medication?
       ○ Do you take insulin?
       ○ Are you on dialysis?
       ○ (For women only) Was this only during a pregnancy?

   ○ (For men only) Prostate Cancer?
   ○ Colon/Rectal Cancer?
   ○ Lung Cancer?
   ○ (For women only) Breast Cancer?
   ○ (For women only) Cervical Cancer?
   ○ Other Cancer?

   NUMBER OF FALLS

4. How many falls, if any, have you had in the past year?

ACTIVITIES OF DAILY LIVING (ADL'S)

5. Because of a health or physical problem that lasted more than 3 months, did you have any difficulty... **(Please mark all that apply)**

   ○ Bathing or showering?
   ○ Dressing?
   ○ Eating?
   ○ Getting in or out of bed?
   ○ Walking?
   ○ Using the toilet, including getting to the toilet?

6. Because of a health or physical problem that lasted longer than 3 months, did you have any difficulty... **(Please mark all that apply)**

   ○ Preparing your own meals?
   ○ Shopping for personal items (such as toilet items or medicines)?
   ○ Managing your money (such as keeping track of expenses or paying bills)?
   ○ Using the telephone?
   ○ Doing heavy housework (such as scrubbing floors, or washing windows)?
   ○ Doing light housework (such as doing dishes, straightening up, or light clean up)?
   ○ Getting outside?

VISION, HEARING & DENTAL

7. Do you have total blindness in one or both eyes?

   ○ Yes, one eye   ○ Yes, both eyes   ○ No

8. Do you use eyeglasses or contact lenses?

   ○ Yes   ○ No

9. Do you have trouble seeing with one or both eyes (even when wearing glasses or contact lenses)?

   ○ Yes, one eye   ○ Yes, both eyes   ○ No

10. Have you seen an optometrist (eye doctor) in the past year?

    ○ Yes   ○ No

11. Do you now have total deafness in one or both ears?

    ○ Yes, one ear   ○ Yes, both ears   ○ No

12. Do you use a hearing aid?

    ○ Yes   ○ No

13. Do you have trouble hearing (even when wearing your hearing aid)?

    ○ Yes   ○ No

14. Have you had a hearing test in the past year?

    ○ Yes   ○ No

15. What type of dental care do you need now? **(Please mark all that apply)**

    ○ Teeth filled or replaced (for example, fillings, crowns, and/or bridges)
    ○ Teeth pulled
    ○ Gum treatment
    ○ Denture work (new dentures)
    ○ Relief of pain
    ○ Work to improve appearance (for example, braces or bonding)
    ○ Other
    ○ None

PLEASE DO NOT WRITE IN THIS AREA

16. Have you seen a dentist or dental hygienist in the past year?

⚪ Yes   ⚪ No

SCREENING

17. About how long ago has it been since you last visited a doctor/health care provider for a routine check-up?

⚪ Never had a check-up   ⚪ Within the past 3 years
⚪ Within the past year   ⚪ Within the past 5 years
⚪ Within the past 2 years   ⚪ 5 or more years ago

18. How long has it been since you had your stool tested for blood using a home kit?

⚪ Never had this test   ⚪ Within the past 3 years
⚪ Within the past year   ⚪ Within the past 5 years
⚪ Within the past 2 years   ⚪ 5 or more years ago

19. (FOR WOMEN ONLY) How long has it been since you had your last mammogram?

⚪ Never had this test   ⚪ Within the past 3 years
⚪ Within the past year   ⚪ Within the past 5 years
⚪ Within the past 2 years   ⚪ 5 or more years ago

20. (FOR WOMEN ONLY) How long has it been since you had your last Pap smear?

⚪ Never had this test   ⚪ Within the past 3 years
⚪ Within the past year   ⚪ Within the past 5 years
⚪ Within the past 2 years   ⚪ 5 or more years ago

21. (FOR MEN ONLY) How long has it been since you had your last PSA, prostate-specific antigen test, a blood test used to check MEN for prostate cancer?

⚪ Never had this test   ⚪ Within the past 3 years
⚪ Within the past year   ⚪ Within the past 5 years
⚪ Within the past 2 years   ⚪ 5 or more years ago

HEALTH CARE ACCESS

22. What type of health care coverage do you have? (Please mark all that apply)

⚪ Medicare   ⚪ Veteran's administration
⚪ Medicaid   ⚪ Indian Health Service
⚪ Private Insurance: ⚪ Alaska Native Health
   Health/Medical   Organization
⚪ Private Insurance: ⚪ Indian Health/Tribal Insurance
   Long-term care   ⚪ Other: _____

23. Do you have one person you think of as your personal doctor or health care provider?

⚪ Yes, only one   ⚪ No
⚪ More than one   ⚪ Don't know/not sure

24. When you are sick or need professional advice about your health, to which of the following places do you usually go? (Please mark all that apply)

⚪ A doctor's office   ⚪ Urgent care center
⚪ A clinic   ⚪ Community Health Aide
⚪ A hospital outpatient   (CHA/CHR)
   department   ⚪ Traditional healer
⚪ A hospital emergency   ⚪ No usual place
   room   ⚪ Other: _____

25. Have any of the following kept you from medical care in the past 12 months? (Please mark all that apply)

⚪ Cost   ⚪ No child care
⚪ Distance   ⚪ No transportation
⚪ Office wasn't open   ⚪ No access for people
   when I could get there   with disabilities
⚪ Too long a wait for an   ⚪ No one spoke my
   appointment   language
⚪ Too long a wait in   ⚪ Other: _____
   waiting room

TOBACCO & ALCOHOL USAGE

26. Do you smoke cigarettes now?

⚪ Yes, everyday
⚪ Yes, some days (e.g. ceremonial or social)
⚪ No (If no, skip to question #28)

27. How many cigarettes do you smoke per day?

NUMBER OF CIGARETTES
⓪⓪ ①① ②② ③③ ④④ ⑤⑤ ⑥⑥ ⑦⑦ ⑧⑧ ⑨⑨

28. Do you use chewing tobacco or snuff?

⚪ Yes
⚪ No   (If no, skip to question #30)

29. How many containers of snuff or chewing tobacco per week do you use?

NUMBER OF CONTAINERS
⓪⓪ ①① ②② ③③ ④④ ⑤⑤ ⑥⑥ ⑦⑦ ⑧⑧ ⑨⑨

30. The next few questions are about drinks of alcoholic beverages. By a "drink," we mean a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. How long has it been since you last drank an alcoholic beverage?

⚪ Within the past 30 days
⚪ More than 30 days ago but within the past 12 months
⚪ More than 12 months ago but within the past 3 years
⚪ More than 3 years ago
⚪ I have never had an alcoholic drink in my life (skip to question #32)

31. During the past 30 days, on how many days did you have five or more drinks on the same occasion? (By "occasion," we mean at the same time or within a couple hours of each other).

⚪ None   ⚪ 3 to 5 days
⚪ 1 or 2 days   ⚪ 6 or more days

WEIGHT & NUTRITION

32. How tall are you without shoes?

FEET   INCHES
⓪ ①   ⓪⓪ ①① ②③④⑤⑥⑦⑧⑨

33. How much do you weigh today?

POUNDS
⓪⓪⓪ ①①① ②②② ③③③ ④④④ ⑤⑤⑤ ⑥⑥⑥ ⑦⑦⑦ ⑧⑧⑧ ⑨⑨⑨

34. Are you presently trying to lose or gain weight?

⚪ Yes, trying to lose weight
⚪ Yes, trying to gain weight
⚪ No

2

58

35. Please mark all that apply to your nutritional health.
- ◯ 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.
- ◯ I am not always physically able to shop, cook and/or feed myself.

36. Over the past 30 days, what vigorous exercises did you do? (Please mark all that apply)
- ◯ Aerobics
- ◯ Bicycling or bicycling on a stationary bike
- ◯ Gardening
- ◯ Jogging
- ◯ Running
- ◯ Walking
- ◯ Swimming
- ◯ Weight Lifting
- ◯ Yard Work
- ◯ Traditional Dancing (Pow-wow, Hula)

SOCIAL SUPPORT/HOUSING

37. How often do you attend traditional ceremonies? ▶ TIMES PER MONTH

38. How often do you attend church or religious services? ▶ TIMES PER MONTH

39. How often do you attend meetings, clubs, or organizations that you belong to? (besides tradition ceremonies or religious meetings)? ▶ TIMES PER MONTH

40. How long have you lived at your present address?
- ◯ Less than 10 years   ◯ 10-20 years   ◯ Over 20 years

41. What type of housing do you presently have?
- ◯ Single family residence
- ◯ An apartment
- ◯ Sleeping room/ boarding house
- ◯ *Retirement home
- ◯ *A health facility (available medical personnel)
- ◯ Homeless
- ◯ Other

*(If retirement home/health facility is marked, skip to question #46.)

42. Are you living with family members, non-family members, or alone?
- ◯ With family members
- ◯ With non-family members
- ◯ With both family and non-family members
- ◯ Alone

43. How many (including yourself) live in your household? ▶ NUMBER IN HOUSEHOLD

44. Do you have a family member who provides care for you?
- ◯ Yes   ◯ No

45. Do you take care of grandchildren?
- ◯ Yes   ◯ No

46. Are you now using, or if at some point you became unable to meet your own needs, would you be willing to use the following services? (Please mark all that apply)

(Interviewer, please see guide for definitions).

Now Using	Would Use	
◯	◯	Adult Day Care
◯	◯	Caregiver Program
◯	◯	Case Management
◯	◯	Elder Abuse prevention Programs
◯	◯	Emergency Response Systems
◯	◯	Employment Services
◯	◯	Financial Assistance
◯	◯	Home Health Services
◯	◯	Home Repair
◯	◯	Home Modification
◯	◯	Information and Referral/Assistance
◯	◯	Legal Assistance
◯	◯	Home Delivered meals
◯	◯	Congregate meals
◯	◯	Personal care
◯	◯	Respite care
◯	◯	Assisted Living
◯	◯	Retirement communities
◯	◯	Nursing Facilities
◯	◯	Government Assisted Housing
◯	◯	Shared Housing
◯	◯	Senior Center Programs
◯	◯	Telephone Reassurance
◯	◯	Transportation
◯	◯	Volunteer Services

47. Have you been employed full or part-time during the past 12 months?
- ◯ Full-time   ◯ Part-time   ◯ No

DEMOGRAPHICS

48. Gender
- ◯ Male
- ◯ Female   ▶ ENTER AGE

49. Age

50. Current marital status
- ◯ Married or living with partner
- ◯ Single/never married
- ◯ Divorced or separated
- ◯ Widowed

51. What is your personal annual income?
- ◯ Under $5,000
- ◯ $5,000 - $6,999
- ◯ $7,000 - $9,999
- ◯ $10,000 - $14,999
- ◯ $15,000 - $19,999
- ◯ $20,000 - $24,999
- ◯ $25,000 - $34,999
- ◯ $35,000 - $49,999
- ◯ $50,000 or more

3

52. What is the highest grade or year of school you completed?

Never attended or kindergarten only	⓪							
Elementary	①	②	③	④	⑤	⑥	⑦	⑧
High School	⑨	⑩	⑪	⑫				
College/Technical School	⑬	⑭	⑮	⑯				
Graduate/Professional School	⑰							

53. What zip code and county/borough do you currently reside?

Zip Code	County/Borough
⓪ ⓪ ⓪ ⓪ ⓪ ① ① ① ① ① ② ② ② ② ② ③ ③ ③ ③ ③ ④ ④ ④ ④ ④ ⑤ ⑤ ⑤ ⑤ ⑤ ⑥ ⑥ ⑥ ⑥ ⑥ ⑦ ⑦ ⑦ ⑦ ⑦ ⑧ ⑧ ⑧ ⑧ ⑧ ⑨ ⑨ ⑨ ⑨ ⑨	_____

54. Are you American Indian, Alaska Native, Native Hawaiian, or other?

- ○ American Indian
- ○ Alaska Native
- ○ Native Hawaiian
- ○ Other

55. Do you reside on/in a reservation, trust land, Alaska village, or Hawaiian homeland?

- ○ Yes (go to next question)
- ○ No (If no, skip to question #57)

56. How long have you lived on/in a reservation, trust land, Alaska village or Hawaiian homeland?

- ○ Less than 5 years
- ○ More than 5 years

57. Are you an enrolled member of a federally recognized tribe?

- ○ Yes
- ○ No

Tribal Affiliation
_____

58. Have you ever served on active duty in the U.S. Armed Forces, military Reserves, or National Guard?

- ○ Yes
- ○ No

SOCIAL FUNCTIONING

59. During the past month, how much of the time were you a happy person?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the time
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

60. How much of the time, during the past month, have you felt calm and peaceful?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the time
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

61. How much of the time, during the past month, have you been a very nervous person?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the time
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

62. How much of the time, during the past month, have you felt downhearted and blue?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the time
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

63. How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the time
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

64. We would like to ask the extent to which you feel you can personally influence things by what you do or say. How much influence do you feel over your life in general?

- ○ Almost no influence
- ○ Little influence
- ○ Some influence
- ○ A lot of influence
- ○ Total influence

65. Do you have a lot of pride in your American Indian, Alaska Native or Native Hawaiian ethnic group?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the times
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

66. Do you participate in cultural practices that include traditional food, music and customs?

- ○ All of the time
- ○ Most of the time
- ○ A good bit of the times
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

67. Do family or friends ever help you out in the following ways:

a. When you are sick?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

b. Shop or run errands for you?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

c. Give you gifts?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

d. Help you out with money?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

e. Fix things around your house?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

f. Keep house for you or help do household chores?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

g. Give advice on business or financial matters?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

h. Provide companionship to you?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

i. Listen to your problems?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

j. Provide transportation for you?
- ○ Never/Hardly ever
- ○ Sometimes
- ○ All/Most of the time

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