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# Exploring Proximal and Distal Psychosocial Stressors Influencing the Health Outcomes of Urban American Indians in the Midwest

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EXPLORING PROXIMAL AND DISTAL PSYCHOSOCIAL STRESSORS INFLUENCING  
THE HEALTH OUTCOMES OF URBAN AMERICAN INDIANS IN THE MIDWEST

by

Alina Alomá

A Dissertation Submitted in  
Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Philosophy  
in Educational Psychology

at

The University of Wisconsin-Milwaukee

August 2016

# ABSTRACT

## EXPLORING PROXIMAL AND DISTAL PSYCHOSOCIAL STRESSORS INFLUENCING THE HEALTH OUTCOMES OF URBAN AMERICAN INDIANS IN THE MIDWEST

by

Alina Alomá

The University of Wisconsin-Milwaukee, 2016  
Under the Supervision of Professor Shannon Chavez-Korell

Researchers have theorized that colonization and forced assimilation of American Indians/Alaska Natives (AI/AN) in the U.S. are associated with the current health outcomes of AI/AN groups. The literature has begun to link a number of negative health outcomes such as chronic illnesses, substance abuse, grief, depression, and anxiety with distal stressors associated with historical loss, as well as with proximal stressors that are continued reminders of historical trauma such as present day discrimination. The present study utilized a quantitative methodology along with a community informed framework through collaboration with multiple urban AI/AN-serving agencies in a metropolitan area of the Midwest to empirically study proposed theoretical models to explain health disparities in urban AI/AN adults. A paper-pencil self-report survey was provided to 285 voluntary adult participants. The measures gathered information about the participants' thoughts and feelings relevant to historical loss, their involvement in health-promoting behaviors, current alcohol, commercial cigarette, and commercial smokeless tobacco use, and their perceptions of their experience being part of their cultural group and a minority within the United States.

The results of this study document the prevalence of historical loss and its associated symptoms in a sample of urban AI/ANs adults living in the Midwest region of the U.S. The

findings provide support for the impact of both the proximal stressor of perceived discrimination and the distal stressor of historical loss thoughts on the outcome of historical loss associated symptoms. Additionally, historical loss thoughts had a significant impact on cigarette use. No direct connection appeared to exist between historical loss thoughts and health-promoting behaviors, or between historical loss thoughts and alcohol use. Psychosocial variables of ethnic identity, mainstream comfort, and social affiliation did not appear to have a moderating influence between historical loss thoughts and historical loss associated symptoms.

This study was funded by a community grant from Mayo Clinic's Spirit of E.A.G.L.E.S. American Indian/Alaska Native Leadership Initiative on Cancer, a National Cancer Institute funded Special Populations Network. The project occurred in collaboration with an organization that provides employment and career services to AI/AN people living in the Southeastern region of a Midwest state. This project was informed by community feedback from AI/AN-serving organizations, including an urban Tribal agency, an urban AI/AN wellness consortium, and a regional inter-Tribal council. The de-identified aggregate results and findings will be disseminated with the appropriate community agencies and the funding program, for their use as they see fit. The findings from this project can potentially inform future health promotion work with local AI/AN organizations and urban AI/AN groups.

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## DEDICATION

I dedicate this dissertation, my doctoral degree, and all my academic accomplishments to my parents, Hidebrando and Gladys. Thank you for all the sacrifices that you made as Cuban exiles to ensure that I had the educational opportunities that you did not have. Thank you for believing in my potential as an intelligent and strong Latina woman. Thank you for supporting me in my pursuit of higher education and for encouraging me to follow my career goals. I am proud to be your daughter.

“Yo soy un hombre sincero  
De donde crece la palma.  
Y antes de morirme quiero  
Echar mis versos del alma.

Yo vengo de todas partes,  
Y hacia todas partes voy:  
Arte soy entre las artes,  
En los montes, monte soy.

Yo sé los nombres extraños  
De las yerbas y las flores,  
Y de mortales engaños,  
Y de sublimes dolores.

Yo he visto en la noche oscura  
Llover sobre mi cabeza  
Los rayos de lumbre pura  
De la divina belleza.”

-José Martí

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# Chapter 1

## Introduction

This study focused on the experiences of the collective group of descendants from the original or indigenous people of North, Central, and South America who live in what is currently known as the United States (U.S.) and are often identified as American Indian or Alaska Natives (AI/ANs). While most publications refer to American Indians or Alaska Natives as one population, they are not one, but a compilation of many populations<sup>1</sup> with distinct histories, cultures, languages, and traditions (Walters, Simoni, & Evans-Campbell, 2002). The U.S. Census (2012) has documented demographic data on AI/ANs<sup>2</sup>. In recent years, 5.2 million people living within the boundaries of the U.S. have self-identified as being AI/AN. In the 2010 U.S. Census, approximately 2.9 million of these individuals self-identified only as AI/AN, and 2.3 million self-identified as being AI/AN as well as a member of other racial or ethnic group(s). The overall AI/AN population within the U.S. grew 27% between 2000 and 2010. This recent growth is more than twice the growth for the total U.S. population (9.7%) in this past decade signaling the resurgence of AI/AN peoples in spite of a long history of genocide and forced assimilation by the U.S. government. AI/ANs now represent 1.7% of the total U.S. population (Urban Indian Health Institute, Seattle Indian Health Board, 2013; U.S. Census Bureau, 2012).

The majority of AI/ANs, about 78%, live outside reservations (U.S. Census Bureau, 2012). The 2010 U.S. Census documented an increase in the population of urban American Indians and Alaska Natives of 34% between 2000 and 2010. Currently, 71% of AI/ANS are living in urban areas (Urban Indian Health Institute, Seattle Indian Health Board, 2013; U.S.

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<sup>1</sup> Each American Indian Tribe is a nation and a population of its own. The plural terms “populations”, “nations”, “groups” and “communities” are utilized herein when referring to American Indians and Alaska Natives from different Tribal affiliations.

<sup>2</sup> The abbreviation AI/AN is utilized herein when referring to American Indian and Alaska Native individuals and communities.

Census Bureau, 2012). Urban AI/ANs include individuals representing numerous indigenous Tribes and their descendants (Urban Indian Health Institute, Seattle Indian Health Board, 2012, p. 5). As noted by the National Urban Indian Family Coalition (2012), “urban is not a kind of Indian. It is an experience; one that most Indian people today have had” (p. 6). The term “urban” often captures the feel of being away from Tribal groups and living in cities among non-indigenous peoples. Urban AI/ANs encompass a diverse group of people that come from indigenous ancestry, may possess indigenous cultural knowledge, may participate in AI/AN community events, may have been forced to relocate to urban areas, and may be long-term residents of metropolitan areas or newly arrived residents (National Urban Indian Family Coalition, 2012). For the purposes of this study, “urban AI/ANs” are defined as individuals who self-identify as AI/AN and currently reside in a metropolitan area (urban or suburban). “Urban areas” are defined as cities with larger concentrations of people (over 100,000) and “suburban areas” are defined as the residential areas outside these cities, or smaller cities that form part of a larger metropolitan area.

Even though the majority of AI/ANs live in urban areas, most of the research conducted in the social sciences has been with AI/ANs living in reservation and rural areas (Brave Heart, 1999; Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013; May & Gossage, 2001; Walls, Whitbeck, Hoyt, & Johnson, 2007; Whitbeck, Adams, Hoyt, & Chen, 2004; Whitbeck, Chen, Hoyt, & Adams, 2004). Extant data about urban AI/ANs indicate they tend to have more negative health outcomes than their counterparts living in rural or reservation areas (Kropp, et al., 2013; May, 1994; Rieckmann, et al., 2012). An estimated 880,000 AI/ANs live in the Midwest region of the U.S. (U.S. Census Bureau, 2012). The Tribes that live in the Midwest are often referred to in the literature as belonging to the “Northern Plains” region of the U.S. The

Northern Plains region has the highest incidence of illnesses and substance abuse for AI/ANs, and greatly differs from other regional areas on health outcomes (Espey, et al., 2014; Geishirt Cantrell, Hodge, Struthers, & Decora, 2005; Kropp, et al., 2013; Landen, Roeber, Naimi, Nielsen, & Sewell, 2014; Plescia, Henley, Pate, Underwood, & Rhodes, 2014; Suryaprasad, Byrd, Redd, Perdue, Manos, & McMahon, 2014). This dissertation project focused on AI/AN adults living in urban areas of the U.S. Midwest region and examined several of the psychosocial factors theorized to influence their health.

The remarkable heterogeneity among AI/AN individuals and nations is often lost in the literature (Volkow & Warren, 2012). Blanket statements are often made about AI/AN communities, when the differences are enormous. Each AI/AN community has its own strengths and challenges (Volkow & Warren, 2012). Regional differences, tribal affiliation, generation cohort, and level of acculturation make it impossible to make generalizations about AI/AN populations in the U.S. through the study of a particular Tribe or community. The study of the particular experiences of urban AI/ANs in the Midwest may be a helpful approach to understanding the context of this geographically bound population. While this approach may not result in findings that are representative of AI/ANs in other regions, it could shed light on the experiences of urban AI/ANs in this particular region, and assist local agencies in efforts to promote health equity among these communities.

While a wide diversity exists among Tribes, a common thread that connects AI/AN nations in the U.S. is the survival by AI/AN peoples of the genocide encountered during the European colonization of North America and its continuation by the U.S. government. Most AI/AN nations within the U.S. have histories associated with European colonization (Deloria, 1979; Stannard, 1992; Thornton, 1987). As a result of colonization, many AI/AN communities



have had massive losses in their way of life including the loss of their lands and traditional ways of sustainability, and the loss of significant aspects of their culture such as their language, identity, and spirituality. The loss of millions of members of AI/AN communities and families as a result of the genocide that has taken place in the last five hundred years has impacted AI/AN nations across the U.S. The degree of the losses and their impact varies based on each Tribe's particular colonization and survival history (Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003; Walters et al., 2011). The differences in colonization survival experiences along with the heterogeneity of cultural factors among Tribes pose challenges to the empirical study of the potential impact of any historical events on the current lives of AI/ANs in the U.S.

The psychological and spiritual effects of the historical losses faced by AI/ANs are often referred to in the literature as “historical trauma” or “soul wound” (Brave Heart-Jordan, 1995; Duran & Duran, 1995). Researchers have theorized that colonization and forced assimilation of AI/ANs in the U.S. are associated with the current health outcomes of AI/AN groups (Brave Heart, 1995; Duran & Duran, 1995; Walters & Simoni, 2002; Whitbeck, Adams, Hoyt, & Chen, 2004). The literature has begun to link a number of negative health outcomes such as chronic illnesses, substance abuse, grief, depression and anxiety with distal stressors associated with historical trauma, as well as with proximal stressors that are continued reminders of that trauma such as present day discrimination (Braveheart-Jordan & DeBruyn, 1995; Duran & Duran, 1995; Evans-Campbell, 2008; Goodkind, Hess, Gorman, & Parker, 2012; Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003; Walters et al., 2011; Walters & Simoni, 2002; Whitbeck, Adams, Hoyt, & Chen, 2004). While there have been some efforts in the literature on historical trauma to contextualize the current status of AI/AN health, the literature has yet to directly link historical trauma as a predictor of health outcomes (Walters et al., 2011).

The study of the role of distal stressors, such as historical trauma, on AI/AN health outcomes is confounded by the number of other present day stressors that AI/ANs face. Some of these present day stressors include discrimination, higher death rates from preventable injuries, higher exposure to traumatic events, greater incidence of adverse childhood events, and access to comprehensive healthcare (Christensen & Kightlinger, 2013; Duran et al., 2004; Gone, 2013; IHS, 2015<sup>2</sup>; Warne & Lajimodiere, 2015). Gaining a greater understanding on how distal stressors and proximal stressors may impact the health outcomes of urban AI/ANs could assist in supporting the healing efforts of these communities.

Different theoretical models have been proposed to understand the phenomenon of historical trauma. One of the proposed theories operationalizes the construct of historical trauma by focusing on the thoughts associated with historical losses and the feelings or symptoms associated with these thoughts resulting in the creation of two validated measures (Whitbeck, Adams, Hoyt, & Chen, 2004). A second proposed theory suggests that historical loss thoughts and present day discrimination interact in a way that increases historical loss associated symptoms (Whitbeck, Adams, Hoyt, & Chen, 2004). Another proposed model suggests that cultural factors may serve as a buffer between stressors such as historical trauma and health outcomes (Walters & Simoni, 2002). These models are examined in the present study.

The purpose of the present study was to: (1) determine the prevalence of historical loss and its associated symptoms as operationalized by Whitbeck, Adams, Hoyt, and Chen (2004) in a Midwest urban AI/AN adult sample; (2) empirically test proposed theoretical models to explain AI/AN health disparities (i.e. Walters & Simoni, 2002; Whitbeck, Adams, Hoyt, & Chen, 2004); (3) increase understanding about the relationship among proximal and distal stressors faced by urban AI/ANs and their health outcomes; (4) explore whether different psychosocial cultural

factors may influence any impact that historical loss may have on the health outcomes of this urban AI/AN adult sample; (5) add to the knowledgebase about urban AI/ANs; and (6) support local urban AI/AN serving organizations in efforts to promote health equity among these communities through project collaboration and sharing of study results.

The current study utilized a community informed framework through collaboration with multiple urban AI/AN serving agencies and was partially informed by Community Based Participatory Research (Christopher, Watts, Knows His Gun McCormick, & Young, 2008) and Tribal Participatory Research (Fisher & Ball, 2003) frameworks for working with indigenous communities. The study tested the above mentioned models utilizing quantitative measures for all variables. For the purposes of this study, “proximal stressors” were defined as events that are directly experienced in the present lifetime of the urban AI/AN adult participants. The primary proximal stressor studied was “perceived discrimination” as operationalized by Malcarne, Chavira, Fernandez, and Liu (2006). Other proximal stressors that were controlled for included: PTSD diagnosis, boarding school attendance, family member boarding school attendance, armed robbery victim/witness, attempted homicide victim/witness, domestic violence victim/witness, physical assault victim/witness, and sexual assault victim/witness. “Distal stressors” were defined as events that are historical, were not directly experienced in the present lifetime of study participants, and were experienced by the person’s ancestors, Tribe or the larger Pan-Indian community. The primary distal stressor studied was “historical loss” as operationalized by Whitbeck, Adams, Hoyt, and Chen, 2004.

The health outcomes that were examined in this study included physical health, substance use and mental health outcomes. Physical health outcomes examined included “health-promoting behaviors” as these behaviors have the potential to positively and significantly impact

physical health (Walker, Sechrist, & Pender, 1995). Substance use health outcomes examined included “alcohol consumption” (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998) and “commercial cigarette and smokeless tobacco use” (Ebbert, Patten, & Schroeder, 2006; Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). Mental health outcomes examined included “historical loss associated symptoms” such as feelings of depression, anxiety, and anger (Whitbeck, Adams, Hoyt, & Chen, 2004). The psychosocial cultural variables that were explored as moderators between stressors and health outcomes included “ethnic identity” attitudes, “mainstream comfort”, and “social affiliation” (Malcarne, Chavira, Fernandez, & Liu, 2006).

While some scholarly efforts have taken place to understand historical loss among AI/ANs (Chavez-Korell, Rouse Arndt, & Davis, in progress; Gone, 2013; Gone, 2014; Gone & Trimble, 2012; LaFromboise & Fatemi, 2011; Rouse Arndt & Davis, 2011) additional research may assist in increased understanding of how AI/AN health outcomes are impacted by proximal and distal stressors. Exploring AI/AN cultural resiliency factors when examining stressors and health outcomes can assist in reinforcing Tribal efforts to address health disparities through indigenous practices. The results of this study will be shared with the larger AI/AN Midwest region community, in a manner determined by a community advisory council consisting of AI/AN leaders from organizations who collaborated in this project, to assist in the development of interventions that can decrease negative health outcomes and increase wellness for urban AI/ANs in the Midwest.

## Chapter 2

### Literature Review

#### The American Indian Holocaust

Understanding the historical context that has contributed to the current physical and mental health outcomes of AI/AN peoples in the U.S. is a first step into looking at health disparities with a decolonizing perspective (Walters & Simoni, 2002). The historical context of AI/ANs is marked by their resilience and survival of multiple events that can be referred to as genocide. Article 2 of the Convention on the Prevention and Punishment of the Crime of Genocide (1948) defines genocide as:

“any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such: killing members of the group; causing serious bodily or mental harm to members of the group; deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; imposing measures intended to prevent births within the group; [and] forcibly transferring children of the group to another group.”

Reviewing some of the history of AI/AN colonization, annihilation, and forced assimilation at the hands of European colonizers is fundamental to comprehending some of the proximal and distal stressors faced by many AI/ANs today. Moreover, further examination of these contextual and historic factors is necessary to determine if they play a role on the current health outcomes of AI/ANs in the U.S. As theorized by several researchers (Braveheart-Jordan & DeBruyn, 1995; Duran & Duran, 1995; Walters & Simoni, 2002; Whitbeck, Adams, Hoyt, & Chen, 2004), the physical and mental health problems affecting the quality of life of current AI/AN communities in the U.S. do not exist in isolation. Many of these contemporary problems

appear to have roots in the AI/AN Holocaust that began over 500 years ago with European colonization and that continues to take place through the present in oppressive conditions such as racism, discrimination, and classism. The following historical review highlights some of the most significant events endured and survived by numerous AI/AN nations in the U.S. While this review is meant to be comprehensive, it does not begin to scratch the surface of all of the atrocities resulting from colonization and ethnic cleansing including present day historically-based challenges such as mining and pipeline conflicts. More importantly, this brief review does not do justice in capturing the immense resilience and strength that AI/AN communities have demonstrated in the face of genocide.

#### **Initial contact and disease.**

The indigenous population of the Americas was estimated to have been over 72 million (Thornton, 1987). There were over 10 million indigenous peoples in North America at the beginning of colonization (Duran & Duran, 1995). It is believed that between the years 1500 and 1900, 70 to 95 percent of the indigenous populations of North America were eliminated by colonization efforts (Thornton, 1987; Weaver & Brave Heart, 1999). By the year 1900, only about 250,000 indigenous peoples are thought to have survived colonization (Thornton, 1986). The elimination of millions of indigenous people in the Americas is considered the most severe and impacting genocide in history (Stannard, 1992).

Disease transmitted by colonizers is considered to be the most devastating cause of death for indigenous peoples during colonization, being responsible for the sudden death of massive numbers of indigenous inhabitants of the Americas (Stannard, 1992; Thornton, 1987). During the initial contact phase with colonizers, disease caused devastating and indiscriminate losses for indigenous communities including the loss of Elders, loved ones, and other important community

members. These losses occurred at all levels and strata of indigenous societies taking away from many of these nations fundamental knowledge, and impacting the performance of important spiritual ceremonies. The immense loss of lives resulting from waves of disease over hundreds of years, set the stage for a series of harrowing episodes in the history of indigenous peoples in North America that are theorized to have created a collective wound and cumulative stress that has been passed down throughout generations (Brave-heart & Jordan 1995; Duran & Duran, 1995).

Several pandemics of smallpox, diphtheria, cholera, typhus, tuberculosis, measles, and the bubonic plague impacted indigenous communities during the last few centuries, including the early 20<sup>th</sup> century (Jones, 2006; Thornton, 1987). Some of these pandemics were intentionally engineered by the government, including handing out blankets infected with smallpox as a war strategy (Warne & Lajimodiere, 2015). Massive losses of human lives due to disease continued in waves causing unexpected effects to Tribes across North America.

### **Colonization and warfare.**

According to Stannard (1992), colonizers' goal was to extinguish indigenous peoples so new settlers could occupy the land and utilize its resources. The annihilation of many indigenous communities in North America was carried out through a number of wars resulting in physical, material, and spiritual losses to various indigenous nations. Many indigenous peoples who survived disease pandemics, were faced with warfare resulting from European invasion. "On average, for every twenty Natives alive at the moment of European contact- when the lands of the Americas teemed with numerous tens of millions of people- only one stood in their place when the bloodbath was over" (Stannard, 1992, p. x).

Multiple wars between European colonizers and indigenous peoples, as well as among Tribes resulting from conflict with colonizers, occurred between the 17<sup>th</sup> century and the 19<sup>th</sup> century (Loewen, 2007; Stannard, 1992; Thornton, 1987). These wars continued to significantly decrease the number of indigenous populations and contributed to the legacy of loss that began upon contact with colonizers. While the resilience and bravery of indigenous peoples has played a key role in their survival of disease and warfare, it is inconceivable to come unharmed from the injuries resulting from genocide (Evans-Campbell, 2008). According to Duran (2006), “the colonial process experienced by these people can be described as a collective raping process of the psyche/soul of both the land and the people” (p. 21). Duran utilized graphic language to describe the impact of colonization, which will be further discussed in this chapter.

### **Forced assimilation.**

After a massive reduction of indigenous populations and military acquisition of their lands, the newly established U.S. government adopted a forced assimilation doctrine involving a number of tactics aimed at assimilating indigenous peoples to European values and culture in order to deal with “the Indian problem” (Braveheart-Jordan & DeBruyn, 1995, p.349). European American colonizers’ main goals were “to establish control of the Indian people and to recreate the subjugated Indians to their own image” (Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003, p. 1333). These goals were fueled by beliefs in the racial and ethnic superiority of Europeans. The perception of indigenous peoples as “savages” increased the drive to assimilate and educate them through whatever means necessary (Deloria, 2003; Stannard, 1992).

A forced assimilation Christianity policy enacted in 1881, disconnected indigenous communities from their spiritual identity and practices through the prohibition of the practice of any AI/AN spiritual ceremony (Brave Heart, 2003). It was not until 1978 that AI/ANs were



legally “allowed” to engage in traditional religious or spiritual practices when the American Indian Religious Freedom Act (P.L. 103-344) was passed (Deloria, 1988). This legislation had to be amended in 1994 given the lack of compliance with the original 1978 act. After indigenous peoples experienced massive losses of traditions through the death of knowledge keepers in their communities, they were further stripped of their identity when this prohibition law was enacted. The loss of indigenous languages due to forceful assimilation was particularly impactful given that knowledge about traditional worldviews was rooted in AI/AN languages (Rouse, 2014). The loss of access to traditional spiritual practices and language may have obstructed indigenous peoples’ ability to cope in a culturally congruent way with the other harmful events that continued through colonization (Duran & Duran, 1995; Duran, 2006).

#### **Land treaties and removal.**

After devastation and loss of lives resulting from disease and genocide, a new era of negotiations began between the U.S. government and AI/AN nations. During the American Revolutionary War (1775- 1783), the U.S. began treaty negotiations with AI/AN nations promising the protection and sovereignty of these nations, and a truce, in exchange for indigenous peoples support and alliance in battling the British (Deloria, 1979). The treaties were characterized by deceitful practices aimed at coercing AI/ANs into submission, such as the introduction of alcohol as a way of exercising control over AI/ANs and the exclusion of women in negotiations who, in many Tribes, were essential to such decision-making processes (Brave Heart-Jordan & DeBruyn, 1995). Some of the treaties included provisions for health care services; however, the U.S. government did not honor most of these treaties (Rhoades & Rhoades, 2014). To this date, no treaty has been honored in its entirety and some not at all. This

lack of integrity and abuse from the U.S. government remains hidden by mainstream retelling of history (Deloria, 1979).

After the end of the Revolutionary War, the need to provide land for new European American “settlers” drove the hunt for new land acquisition from Tribes (Deloria, 1979). The U.S. government was successful in negotiating strategies to obtain lands through deceit. Treaty negotiations initiated by the U.S. government often operated under the illusion that the government was attempting to help AI/ANs care for their land rather than stealing it, giving birth to paternalistic practices towards Sovereign Nations (Deloria, 1974). After hundreds of treaties, the U.S. government was able to “acquire” close to a billion acres of AI/AN land by 1871, and declared the end of the treaty period (Deloria, 1979).

Traditionally, AI/AN Tribes did not share the European concept and drive to own land and for many nations, the land was and is still considered sacred and not to be possessed (Brave Heart & DeBruyn, 1998). The introduction of the Dawes Allotment Act of 1887, an act that allowed the U.S. government to inspect and divide Tribal lands, greatly affected community life for AI/AN Tribes (Deloria, 1974). Land allotment initiatives imposed aimed at destroying AI/AN traditional communal life by dividing and conquering communities and giving the illusion that AI/ANs had an excess of land (Brave Heart & DeBruyn, 1998). Promoting the ownership of land can be viewed as another act of forced assimilation to beliefs that were incongruent with AI/AN cultures, spirituality, and ways of life. The U.S. illegally confiscated AI/AN land, such as the Lakota’s Black Hills, in violation of previously established treaties (Brave Heart & DeBruyn, 1998). An estimated eighty percent of AI/AN land was divided into parcels for individual ownership, most of it for European American “settlers” (Brave Heart-Jordan & DeBruyn, 1995).

The U.S. government forced many AI/AN Tribes to relocate to areas of low economic value and limited sustainability later known as “reservations” (Whitbeck, Adams, Hoyt, & Chen, 2004). AI/AN nations such as the Diné/Navajo were forced to walk hundreds of miles after being removed from their land, many dying during the journey (Goodkind, Hess, Gorman, & Parker, 2012). After removal and land confiscation by the government, many AI/AN Tribes were forced to live in reservations that closely resembled concentration camps with limited authorization to leave these areas. Dire conditions in these confined reservations contributed to the physical and cultural death of AI/AN nations due to limited access to traditional foods, completely changing what had been preserved through colonization, up to this point, from their traditional ways of life (Brave Heart & DeBruyn, 1998).

### **Boarding school era.**

The ethnic cleansing efforts did not end after the wars. These efforts continued after the U.S. military occupied AI/AN territories (Whitbeck, Adams, Hoyt, & Chen, 2004). One of the main vehicles of forced assimilation utilized by the U.S. government was the creation of boarding schools in 1879. These schools were managed like military schools. Their sole purpose was to assimilate AI/AN children to Eurocentric values and to eliminate their AI/AN culture (Brave Heart-Jordan & DeBruyn, 1995). AI/AN children were subjected to starvation, physical abuse, and sexual abuse, and were severely punished if they spoke their native tongue or engaged in any other traditional practices (Brave Heart, 1999). The removal of AI/AN children from their communities sent the message that the U.S. government deemed AI/ANs’ unable to raise children in an appropriate manner (Brave Heart & DeBruyn, 1998). To this day, the disconnection in traditional practices, and ethnic identity can be observed in many survivors of the boarding school era (Brave Heart, 1999; Evans-Campbell, Walters, Pearson, & Campbell,

2012). Recent studies have noted the negative impact that boarding school ethnic cleansing and forced assimilation has had on parenting practices and family relationships in recent generations (Brave Heart,1999; Walls, Whitbeck, Hoyt, & Johnson, 2007).

### **Urbanization.**

Evidence of forced assimilation processes resulting from governmental policies can be observed in contemporary times. The U.S. government continued assimilation practices of AI/ANs well into the 20<sup>th</sup> century. In the 1950's, the Bureau of Indian Affairs enacted a relocation initiative anticipating that AI/ANs would move out of reservations and into urban areas, therefore reducing the government's trust responsibilities (Walls & Whitbeck, 2012). The urbanization program offered jobs in urban areas for AI/ANs among other benefits such as housing. Many individuals experienced pressure to participate in this "voluntary" initiative and to leave reservation life behind (Wilkinson, 2005). The federal government's lack of commitment to following their responsibilities as delineated in various treaties made most reservations' conditions deplorable. These conditions also made urbanization less of a choice and more of a survival strategy.

Urbanization was not all it was promised to be. New challenges surfaced for those who relocated to urban areas. The jobs promised were low paying or seasonal, and lack of social support impacted adjustment to urban life (Braveheart- Jordan & DeBruyn, 1995; Nichols, 1998). AI/AN individuals who relocated to urban areas experienced stressors including discrimination and isolation due to being separated for extended periods of time from families in their reservations (Brave Heart & DeBruyn, 1998). "This move from tight-knit, small, intergenerational communities to the anonymity of urban life was one of the latest large-scale government assaults on cultural values of sharing strong intergenerational family obligations"

(Walls & Whitbeck, 2012, p. 1276). The rapid urbanization of AI/ANs that has taken place in the last few decades is responsible for more than 71% of AI/ANs now living in urban areas rather than reservations (Urban Indian Health Institute, 2013; Walters, Simoni, & Evans-Campbell, 2002).

### **Healthcare.**

Between the years 1800 and 1840, the health and well-being of AI/AN populations were of no concern when the federal government managed Indian affairs through the U.S. Department of War. In fact, the only health initiative made during that time by the federal government on behalf of AI/ANs was to provide some vaccination during the smallpox epidemic (Rhoades & Rhoades, 2014). In 1849, the U.S. Department of War transferred the management of Indian affairs to the U.S. Department of the Interior, which created the Bureau of Indian Affairs (BIA). The Bureau of Indian Affairs provided a somewhat systematic method to manage the healthcare of AI/ANs between 1849-1955. Even though the federal government received the responsibility for the healthcare of AI/ANs, during the reservation period of 1849-and 1900, the health services provided to AI/ANs were very limited in spite of the treaty obligations. It was not until 1911, that the U.S. congress began to finally include AI/AN healthcare in their budget, which left billions of healthcare budget dollars missing from AI/ANs (Rhoades & Rhoades, 2014).

In 1955, the federal oversight of healthcare for AI/ANs moved from the U.S. Department of the Interior to the U.S. Department of Health, Education, and Welfare, which prompted the creation of Indian Health Services (IHS). The IHS is the primary government agency currently in charge of providing healthcare services to AI/ANs (Walters, Simoni, & Evans-Campbell, 2002). The creation of the IHS did not result in an immediate improvement in the health of AI/ANs (Jones, 2006). Prior to 1976, the U.S. government limited Tribal involvement in

healthcare. This improved through the 1976 Indian Health Care Improvement Act (IHCIA, Pub. L 94-437), which now allows Tribes to have an active role in the decision-making of local healthcare programs (Rhoades & Rhoades, 2014). Some of the main challenges with the rapid relocation of AI/ANs to urban settings are the lack of health and social services available for urban AI/ANs. The IHS allocates a significantly low amount of funding to its urban locations, which further contributes to the health disparities among urban AI/ANs due to lack of access to quality health services (Walters, Simoni, & Evans-Campbell, 2002). Overall, the IHS' "per capita expenditures remain far below those in the general population" (Jones, 2006, p. 2131). The difficulties AI/ANs face in accessing healthcare have perpetuated the health disparities that the IHS was initially appointed to eliminate.

More recently, the Patient Protection and Affordable Care Act (PPACA, P.L. 111-148) provided indefinite reauthorization of the IHCIA, which authorizes federally funded healthcare services for AI/ANs (Congressional Research Services, 2010). The passing of the PPACA directed a number of changes in the structure of the IHS, as well as in the participation of AI/ANs in Medicaid and other federal insurance programs (Congressional Research Services, 2010). As explained by Warne and Frizzell (2014), AI/ANs who continue to not have access to health insurance including Medicaid, might rely on tribal clinics or the IHS for healthcare. Individuals who utilize these types of health settings are subject to referrals, managed by the Contract Health Services (CHS) program of the IHS, to outside sources for specialty care (Warne & Frizzell, 2014). In spite of the recent changes in the U.S. healthcare system resulting from the PPACA, the procedures for CHS referrals are not affected by the healthcare reform. This continues to leave life-saving procedures such as colonoscopies at the discretion of CHS, with the possibility that referral for this type of procedure may be denied (Warne & Frizzell, 2014).

Furthermore, “urban Natives experience consistent cultural incompetence from mainstream program providers and endure subtle and overt racism routinely” at both systemic and personal levels (National Urban Indian Family Coalition, 2015, p.7).

In summation, a review of North American indigenous peoples identifies a number of assaults to the humanity and health of AI/ANs resulting from colonization. The health and wellness of AI/ANs have been impacted by the unique “fourth world” context in which AI/ANs have lived in for the past 500 years (Walters & Simoni, 2002). A “fourth world” context occurs when indigenous populations are forced, through colonization, to live within another country that exerts their power and privilege through the oppression and subordination of the indigenous people (O’Neil, 1986). Given the fourth world context of AI/AN peoples in the U.S., utilizing an indigenist perspective that acknowledges the current oppressive state and the history of oppressive enforcement through genocide and colonization is essential in understanding the current state of the health of these nations (Walters & Simoni, 2002). It provides a context for better understanding the current psychosocial stressors faced by many AI/AN communities. It also highlights possible historical events that may operate as distal stressors that could continue to contribute to the current health concerns faced by some of these communities. More importantly, an indigenist perspective highlights the resilience of AI/AN peoples in the face of genocide.

### **Psychosocial Factors Associated with Current AI/AN Health and Wellness**

#### **Health disparities and extreme stressors.**

Health disparities are defined as “health differences that adversely affect socially disadvantaged groups” (Braveman et al., 2011, p. S149). These disparities in health status and outcomes are often associated with the social issues faced by many ethnic minority groups in the

U.S., such as having limited access to healthcare, living in poverty, and/or experiencing environmental disadvantages (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [CDC], 2013<sup>1</sup>). Social determinants of health may include income, race or ethnicity, gender identity, and sexual orientation among others. Health disparities are often connected to systemic and oppressive conditions that negatively impact the health and wellbeing of marginalized or vulnerable groups.

A number of sources have reported that significant differences exist between the health of White/Caucasian Americans and the health of Americans of color, including AI/ANs (CDC, 2013<sup>1</sup>; U.S. Department of Health & Human Services, Office of Minority Health, 2014). In particular, AI/ANs experience some of the highest health disparities among U.S. ethnic minority groups (Arias, Xu, & Jim, 2014; CDC, 2013<sup>2</sup>; Cobb, Espey, & King, 2014; Landen, Roeber, Naimi, Nielsen, & Sewell, 2014; Plescia, Henley, Pate, Underwood, & Rhodes, 2014; U.S. Department of Health and Human Services, Office of Minority Health, 2014). According to the Office of Minority Health (2014), the percentage of AI/AN adults with the following diseases is higher in comparison to White adults. The percentage of AI/AN coronary heart disease is 7.2% in comparison to 6.3% for Whites, diabetes is 17.5% compared to 6.6% for Whites, stroke is 4.6% compared to 2.2% for Whites, and chronic liver disease is 2.6% for AI/ANs compared to 1.3% for Whites (Office of Minority Health, 2014). Connections exist in heart disease rates to rates of commercial tobacco use and in liver diseases to rates of alcohol use among AI/ANs (Espey, et al., 2014; Urban Indian Health Institute, Seattle Indian Health Board, 2012; Office of Minority Health, 2014).

AI/AN peoples encounter higher mortality rates than Whites and current AI/AN newborns are projected to have a lower life expectancy by 4.4 years than all other race/ethnic



groups in the U.S. (Espey, et al., 2014; U.S. Department of Health and Human Services, Indian Health Services [IHS], 2016). Between 1999 and 2009, disparities in mortality rates were higher for AI/ANs in the 25 to 44 age range (Espey, et al., 2014). AI/ANs experience higher death rates from chronic liver disease, cirrhosis, diabetes, and chronic lower respiratory diseases than other racial/ethnic groups within the U.S. (Espey, et al., 2014; IHS, 2016). The two leading causes of death in AI/AN men between 1999 and 2009 were heart disease and cancer, with these illnesses exceeding the deaths from all other causes when compared to Whites (Espey, et al., 2014).

AI/AN males appear to have similar rates of lung cancer with Whites; however, AI/AN females have significantly higher lung cancer illness and death rates than White females (Plescia, Henley, Pate, Underwood, & Rhodes, 2014). AI/AN women's leading causes of death were cancer and heart disease at disproportionately higher rates when compared to White women (Espey, et al., 2014). In addition to higher lung cancer rates, AI/ANs with lung cancer die younger from this disease than Whites with lung cancer (Plescia, Henley, Pate, Underwood, & Rhodes, 2014).

Higher mortality rates were observed in the Northern Plains and the Southern Plains areas, with the 25 to 44 age group living in the Northern Plains having mortality rates three times higher than Whites (Espey, et al., 2014). With higher mortality rates for younger AI/ANs, fewer make it to the age when other chronic illnesses are natural causes of death (Christensen & Kightlinger, 2013).

AI/ANs also experience disproportionate exposure to various extreme stressors. Substantially higher death rates from unintentional injuries such as motor vehicle accidents, intentional injuries resulting from suicide, and injuries from assault or homicides are reported (Christensen & Kightlinger, 2013; IHS, 2015<sup>2</sup>). According to the IHS (2015<sup>2</sup>), the leading cause of death for AI/ANs ages 1 to 44 are preventable injuries, which are 2.4 times higher than for

other U.S. ethnic groups. Some of the factors that influence greater injury rates in AI/ANs include lack of traffic safety in rural environments, higher population of young adults, and higher rates of alcohol-related injuries (IHS, 2015<sup>2</sup>). Documented mental health disparities include higher lifetime rates of PTSD and anxiety, as well as high rates of depression that may also play a role in the disproportionate number of injuries in AI/ANs (Urban Indian Health Institute, Seattle Indian Health Board, 2012). Suicide rates are 1.7 times higher for AI/ANs when compared to the rates of all other U.S. ethnic groups (IHS, 2015<sup>1</sup>). AI/AN youth have the highest rates of suicide and suicide attempts (Urban Indian Health Institute, Seattle Indian Health Board, 2012). About 39% of AI/AN women are survivors of domestic violence making it the highest rate of domestic violence among all other U.S. ethnic groups (IHS, 2015<sup>1</sup>). High rates of sexual assaults are also reported (Gone, 2013). Greater incidence of adverse childhood events associated with family dysfunction, including maltreatment and abuse, appear to also be connected to AI/AN poor health outcomes such as heart disease, alcohol use, and depression (Duran et al., 2004; Warne & Lajimodiere, 2015). Given the level of traumatic exposure encountered by AI/AN peoples, the rates of post-traumatic stress disorder are almost double than those observed in other adults (Gone, 2013).

Alcohol may play a significant role in preventable injuries (IHS, 2015<sup>2</sup>). According to a report from the National Survey on Drug Use and Health conducted in 2010, AI/AN populations have a higher need for substance abuse treatment than other racial/ethnic groups given the greater prevalence of substance abuse in these populations (U.S. Department of Health & Human Services, Substance Abuse and Mental Health Services Administration [SAMHSA], 2012). This national survey indicated that about 14.4% of AI/ANs are estimated to be in need of alcohol abuse treatment compared to 7.6% of individuals from other races/ethnicities. About 6.5% of

AI/ANs are estimated to be in need of illicit drug abuse treatment compared to 3.1% from other races/ethnicities. Overall, about 17.5% of AI/ANs are estimated to need treatment for alcohol or illicit drug abuse compared to 9.3% of individuals from other races/ethnicities (SAMHSA, 2012). These statistics need to be evaluated carefully, as the accuracy of epidemiology data for AI/ANs has often suffered and may vary regionally. Duplicated counts of incidence rates in communities with higher incidence of alcohol abuse have also led to distorted and stigmatizing representation of the problem (May, 1994).

Well-established social determinants of health such as socioeconomic status cannot fully account for the health disparities and excessive rates of physical and mental health problems in AI/ANs (Walters & Simoni, 2002). While the AI/AN specific stressors discussed above significantly contribute to the health disparities of AI/AN groups, it is possible that other social and historical determinants of health may also be impacting AI/AN health and wellness. Duran and Duran (1995) explained the incidence of extreme stressors contributing to health disparities in many AI/AN communities as internalization and externalization processes resulting from the injuries sustained through colonization and oppression. Suicide is thought out to be an internalization of self-hatred and domestic violence an externalization of anger extending from the American Indian Holocaust (Duran & Duran, 1995). Additional research that accounts for multiple factors, including historical losses and present day extreme stressors, may help clarify the impact of all of these variables on current AI/AN health (Evans-Campbell, 2008; Walters et al., 2011).

#### **Indigenist Stress-Coping Model.**

After reviewing some of the major historic events that have affected various AI/AN peoples in the U.S. and the health disparities faced by AI/ANs, it becomes plausible to consider

that several of the current social, physical, and psychological health issues faced by contemporary AI/AN communities might be connected with their history of colonization and forced assimilation. The Indigenist Stress-Coping Model (Walters & Simoni, 2002) will be utilized in this study as a framework to understand the current state of AI/AN health and wellness given the historical context of genocide and the existent perpetuated discrimination against AI/AN communities living in the U.S. The Indigenist Stress-Coping Model provides an appropriate context for the health status of contemporary AI/AN women living in the U.S. and the impact of social determinants on their health. It aimed to better understand the coping strategies utilized by AI/AN women to deal with the high number of life stressors they face. This model proposed that stressors in AI/ANs, such as those that may be associated with historical trauma and discrimination, can affect health outcomes including physical and mental health, as well as substance use. The Indigenist Stress-Coping Model posed that culture, including ethnic identity attitudes and traditional health practices, can serve as a buffer or moderator between historic and current life stressors, and the health outcomes of AI/ANs (Walters & Simoni, 2002). While this model was originally conceptualized for AI/AN women, this study attempted to utilize it with the general AI/AN adult population given that no gender specific variables were studied in its application.

One of the main stressors identified by the Indigenist Stress-Coping Model (Walters & Simoni, 2002) is that of historical trauma. According to Evans-Campbell (2008), the current high rates of assault and discrimination faced by AI/ANs in the U.S. “take an additional weight when understood in the context of historical trauma. From an indigenous perspective, these events [such as violent crimes and microaggressions] are understood as clearly linked to historical events and patterns of trauma... they serve as contemporary manifestations of past

assaults... modern events are part of the daily fabric of modern American Indian/Alaska Native life, historical trauma becomes the ongoing context in which many people live” (p. 331). The legacy of cumulative historical stressors and its potential impact on health outcomes is discussed next.

### **Historical trauma, health outcomes, and psychosocial cultural factors.**

Indigenous peoples have carried the knowledge of the “soul wound” for much longer than any social science field has had awareness of it (Duran & Duran, 1995). The concept of “historical trauma”, also known as “soul wound”, was first linked in the literature to AI/ANs in the 1990’s (Brave Heart-Jordan, 1995; Duran & Duran, 1995). The umbrella topic of “intergenerational trauma” studied the problems observed in the immediate relatives of Jewish Holocaust survivors and in subsequent generations of Holocaust survivors (Barocas, 1975). Legters (1988) began to make the connection between the symptomology observed in the subsequent generations of Jewish Holocaust survivors and their similarities to the problems faced by recent AI/AN generations.

Historical Trauma Theory (Brave Heart-Jordan, 1995) was developed in an attempt to understand the physical, emotional, and social problems observed in AI/ANs. Duran and Duran (1995), Brave Heart-Jordan, (1995), and Brave Heart and DeBruyn (1998), theorized that there was a relationship between the contemporary problems faced by AI/AN communities and the historical events they survived. These contemporary problems were speculated to result from the chronic trauma and unresolved grief that was passed along generations of AI/ANs (Brave Heart & DeBruyn, 1998; Duran & Duran, 1995). Duran and Duran (1995) discussed the concept of the “soul wound” or injury to the collective soul of AI/AN communities as resulting from the suffering these communities endured in the last centuries. Brave Heart and DeBruyn (1998)

explored the concept of “intergenerational trauma” and proposed that current generations of AI/ANs were experiencing “historical unresolved grief” (p.64). These researchers argued that the cumulative losses and the high number of traumatic events faced by AI/ANs over the last 500 years were continuing to affect the quality of life of current AI/AN generations (Brave Heart & DeBruyn, 1998).

According to Duran (2006), behind the social, health, and psychological problems currently observed in AI/AN communities lie previous unresolved traumas passed down through generations of AI/ANs. Jones-Saumty, Thomas, Phillips, Tivis, and Nixon (2003) proposed that “the effects of tremendous historical losses as well as the unresolved grief, despair, and persistent trauma associated with such losses are readily apparent in poverty and hopelessness seen in many Indian communities” (p. 1333). The cumulative weight of multiple traumas is theorized to increase the severity of the collective wound. Indigenous worldviews of interconnectedness speak to the impact that any action may have on everything, including on ancestors and future generations (Rouse, 2014). What Western perspectives may view as historical events may not be in the past for AI/AN peoples. Indigenous conceptualizations of time as spatial rather than lineal facilitate understanding of the presence of the “soul wound” regardless of the timeline of historical events (Duran & Duran, 1995).

According to Duran (2006), if the survivors do not deal with the wound, they are “doomed to repeat the abuse on someone or something else” (p. 23). It is believed, that the perpetuation of wounding across AI/AN generations in ways such as domestic violence may continue transmission of historical trauma if opportunities for healing are not present (Duran, Firehammer, & Gonzalez, 2008). After the U.S. outlawed spiritual and traditional AI/AN ceremonies in 1881, “many Natives were forced to either abandon ceremonies or practice

indigenous spirituality in secret, thereby impairing traditional mourning resolution [and healing] on a community-wide basis. With the rapid succession of massive traumatic losses, Native grief became unresolved and impaired” (Brave Heart, 2003, p. 8). Historical trauma advocates, such as Brave Heart, considered that the prohibition of practicing culturally and spiritually congruent ways of grieving the losses resulting from colonization may have impacted the process of healing from these losses.

The massive number of potentially traumatic events that occurred resulting from genocide may have triggered a number of symptomatic responses. Duran (2006) suggested that manifestations of the “soul wound” can be observed in contemporary AI/AN life through different types of violence including domestic violence, suicides, and homicides. As conceptualized by Brave Heart (1999), historical trauma responses include psychological symptoms such as depression, anxiety, and chronic bereavement. As conceptualized in the Indigenist Stress-Coping Model (Walters & Simoni, 2006), these responses can also include internalizing of somatic symptoms and externalizing self-destructive behaviors that could severely affect physical health and wellness. Historical trauma is conceptualized as potentially occurring both during a person’s life span and across generations (Brave Heart-Jordan, 1995; Brave Heart, 1999).

Even though historical trauma resonates with the experiences of some AI/ANs, the different processes associated with this phenomenon and the scarcity of empirical research on historical trauma and its effects have confounded its study. According to Walters, Mohammed, Evans-Campbell, Beltrán, Chae, and Duran (2011),

“the simultaneous use of the term ‘historical trauma’ to encapsulate four different historical [...] processes (as an etiological factor; as a particular type of trauma response

and syndrome; as a pathway or mechanism to transfer trauma across generations; and as a historical trauma-related stressor interacting with other proximal stressors) has hindered the ability to cogently theorize historical trauma and its impact on indigenous health across disciplines” (p. 182).

In spite of the popular endorsement of the historical trauma construct, controversy exists about the validity of this construct given the high incidence of traumatic events that are directly experienced in the present by AI/ANs (Gone, 2013). Psychologists such as Gone have challenged the construct of historical trauma as it currently appears in the literature. In his research, Gone (2014) applied the concept of historical trauma to a 1901 war narrative from a female of the Gros Ventre Tribe. This application resulted in a critique of the legitimacy of historical trauma as an explanatory model to link past oppression with current maladjustment in AI/ANs (Gone, 2014). “We need not reference colonization history to account for contemporary trauma in Indian Country, just as we need not invoke psychological trauma to account for the ongoing impacts of colonization history” (Gone, 2014, p. 402). He also argued that this model makes a black and white assumption that all AI/ANs are victims of trauma and all European colonizers perpetrators. In his words, “I strongly object...to the essentialist implications that many or most contemporary AI/ANs are traumatized-wounded, weakened, disabled- by history” (Gone, 2014, p.403). Gone highlighted the potential negative influence that the historical trauma narrative may have on AI/ANs and how it may obscure resiliency and “survivance” (Vizenor, 1999, p. vii) among these groups. Gone’s perspective challenges the vast majority of historical trauma literature and provides important thoughts for consideration in the empirical study of the proposed phenomenon of historical trauma.



Conceptualizations of historical trauma have also varied “from symptoms of posttraumatic stress disorder (including numbing, anger, rage) to symptoms of major depression, anxiety disorder, alcohol and drug abuse” (Whitbeck, Adams, Hoyt, & Chen, 2004, p. 120). When examining historical trauma through a clinical lens, it is necessary to separate the construct of historical trauma from the common diagnosis of post-traumatic stress disorder (PTSD), as the latter may not fully account for the intergenerational transmission of symptoms and the cultural bereavement observed in AI/ANs (Brave Heart, 2003). The construct of historical trauma is reported to be more complex in its etiology and to encompass symptomology beyond what is reported in PTSD (Gone, 2013). While the psychological symptoms of historical trauma are not the same as those of PTSD, there can be some co-morbidity between the two given the disproportionate amount of trauma that AI/ANs still experience.

Contrary to PTSD, historical trauma or the “soul wound” is considered to be collective as it is experienced by particular groups of people that may have faced genocide or significant oppression, whereas PTSD is considered an individual experience (Gone, 2013). While PTSD is considered a mental illness, the construct of historical trauma is not a diagnosable illness (American Psychiatric Association, 2013). The construct of historical trauma incorporates injuries to mental health, as well as social injuries connected to oppression (American Psychiatric Association, 2013; Gone, 2013). Unlike single exposure post-traumatic stress disorder, historical trauma is considered to be “cumulative” with the accrual of different adverse experiences resulting in greater disturbance (American Psychiatric Association, 2013; Brave Heart, 1999; Gone, 2013). “When trauma is not dealt with in previous generations, it has to be dealt with in subsequent generations [and] it becomes more severe each time it is passed on to a

subsequent generation” (Duran, 2006, p. 16). There is a sense that historical trauma compounds and becomes more intensive as it is passed down through generations.

The main feature that differentiates the construct of historical trauma from post-traumatic stress disorder is its intergenerational effect rather than individual impact (Gone, 2013). “The claim here is that offspring or descendants of individuals who have experienced HT are themselves more susceptible to pathological dysfunction as a consequence of the traumatic experiences of their ancestors and at least partly independent of their traumatic experiences” (Gone, 2013, p. 687). The intergenerational effect is a unique attribute of historical trauma. While intergenerational transmission is a distinct component of historical trauma that distinguishes it from PTSD, the historical trauma literature has been vague in regards to isolating the mechanisms by which intergenerational transmission occurs (Gone, 2013).

The historical losses caused by genocide to AI/AN communities may not be in the past. AI/ANs’ fourth world context may provide opportunities for daily reminders of colonization and ethnic cleansing. These losses are conceptualized to be observable in AI/AN communities today, through poverty, discrimination, and the losses of cultural practices (Whitbeck, Adams, Hoyt, & Chen, 2004). For some AI/ANs, the topic of historical trauma resonates with their present struggle because it acknowledges the legacy of suffering from colonization that indigenous peoples have survived and continue to endure, as well as its impact on the well-being of their communities and families (Goodkind, Hess, Gorman, & Parker, 2012). Historical trauma “links community members together in shared struggles to overcome bitter circumstance or frightful ordeal in the wake of colonization” (Gone, 2013, p. 688). The collective narrative may serve the purpose of uniting AI/ANs and externalizing the problems as societal based. However, it is argued that the historical trauma “construct fails to provide incremental explanatory power for

contemporary AI health disparities” (Gone, 2014, p. 402). With the continued extreme stressors many AI/ANs encounter and the potential PTSD that may result from these, the point in which the past and the present merge is unclear. This lack of clear distinction challenges the viability of the construct of historical trauma and further confounds its study.

Whitbeck, Adams, Hoyt and Chen (2004) made the first quantitative attempt at disentangling historical trauma symptoms from other psychological conditions through the development of a psychometric measure for historical loss. They aimed to determine if historical losses were present in the minds of AI/AN people currently living in reservations and if so, how these thoughts connected to historical loss associated symptoms. Whitbeck and colleagues were successful in developing a valid measure through partnership with several AI/AN communities. These researchers worked with AI/AN reservation communities to identify a number of thoughts associated with the historical losses endured by AI/ANs and a variety of feelings that may arise as a result of these losses, which created a pathway for the empirical study of this phenomenon (Whitbeck, Adams, Hoyt & Chen, 2004).

Whitbeck, Adams, Hoyt, and Chen (2004) also discussed the challenges with the quantitative study and operationalization of the historical trauma construct, as they thought that the presence of distal historical loss must first be detected before any assumptions could be made about its connection to present psychological symptoms. These researchers argued that the difficulties in the study of historical trauma lie in the problematic process of separating proximal versus distal causes given that AI/ANs living in the U.S. continue to live with a number of challenges such as poverty, health issues, and discrimination, as well as specific AI/AN extreme stressors including suicide, homicide, domestic violence, and other preventable injuries.

Whitbeck and colleagues (2004) also raised the challenges of ever achieving a Western

understanding of the process of intergenerational transmission that makes historical trauma unique from post-traumatic stress disorder. Indigenist conceptualizations of time, space and interconnectedness may be more suitable to understanding the phenomenon of intergenerational transmission.

The study of historical trauma is also complex given the difficulty of connecting historical trauma to current symptoms due to the extended distance of these events from the present. Walls and Whitbeck (2012) addressed this challenge by examining the relationship between a more recent historical loss event of relocation and tracking its effects on three generations of AI/AN families. This study linked the intergenerational transmission of trauma through externalizing behaviors such as drinking and lack of parenting warmth. Findings suggested that these behaviors in response to relocation policies led to further substance abuse and depression in the subsequent generation. This study was able to directly link relocation policies with substance abuse problems, making a valid case for the continued study of the potential effects of historical trauma on health and wellness (Walls & Whitbeck, 2012).

In addition to the previously described multiple extreme stressors encountered by AI/ANs, other proximal stressors are theorized to perpetuate historical trauma in the present time. The ongoing discrimination faced by AI/ANs as a Pan-Indian ethnic minority group in the U.S., may serve as another proximal stressor that may impact health outcomes. Perceived discrimination has been studied alongside historical loss. Whitbeck, Chen, Hoyt, and Adams' (2004) findings suggested that perceived discrimination had a strong positive correlation with historical loss. These researchers theorized that present discrimination might be a trigger for AI/ANs that reminds them of their current "minority" status and the genocide events that led to their present status. However, some members of sovereign nations may see their people as the

majority group. Present day discrimination may serve as a proximal stressor that reminds AI/AN people of the ethnic cleansing policies of the U.S. government that resulted in the loss of many aspects of AI/AN traditional culture and in their underprivileged place in the current U.S. societal hierarchy (Whitbeck, Chen, Hoyt & Adams, 2004). Whitbeck, Chen, Hoyt, and Adams' (2004) argued that perceived discrimination as a proximal stressor may be associated with symptoms of historical loss and that this relationship might be moderated by historical loss thoughts. This claim was explored in the present study.

According to Walters, Simoni, and Evans-Campbell (2002), colonizers aimed at disempowering and destabilizing AI/AN nations through targeting indigenous health. "Despite miraculous advancements in technology and medicine, the health and well-being of Indian people has suffered immeasurably in the five centuries since European contact" (Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003, p. 1333). The disproportionate number of serious illnesses affecting many AI/ANs today brings the topic of health to the forefront of many AI/AN communities. According to AI/AN participants in a qualitative study by Myhra (2011), the new AI/AN genocide is poor health. In the words of one of the participants in this study, "our people are dying off because of these diseases: alcoholism, diabetes, cancer, heart disease" (Myhra, 2011, p. 24). In a qualitative study on resilience by Goodkind, Hess, Gorman, and Parker (2012), many participants believed that the health problems experienced by their community, including high rates of physical diseases, mental illnesses and substance abuse, were a result of historical trauma and contact with White people. Some participants in this study also connected poor physical health with colonization and discussed the harm caused to their traditional lifestyles by the exposure to alcohol and drugs through colonization (Goodkind, Hess, Gorman, & Parker, 2012).

In a study with participants from two reservations in the U.S. and two reservations in Canada, Whitbeck, Adams, Hoyt, and Chen (2004) noticed that participants who reported a greater perception of historical loss were more likely to experience feelings of depression and anger associated with these losses. This study confirmed that the losses experienced through genocide are present in the minds of AI/AN and that the symptoms and experiences of associated distress are related to thoughts about these losses. These symptoms and experiences included sadness or depression, anger, anxiety, being uncomfortable around White people, shame, loss of concentration, feeling isolated or distant from others, loss of sleep, rage, fear or distrust of White people's intentions, avoidance, and feeling like the trauma is happening again (Whitbeck, Adams, Hoyt, & Chen, 2004). While no severity of historical trauma symptoms was determined, this study paved the way for the quantitative study of historical trauma and its effects on AI/ANs (Whitbeck, Adams, Hoyt, & Chen, 2004). In another study with participants across eight reservations, findings suggested that 30% of participants thought about historical losses at least yearly or at special times, with about 25% of participants thinking daily about these losses (Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013).

The symptoms associated with the historical losses of AI/ANs may reflect the pain experienced by many, given the ethnic cleansing practices resulting in the loss of cultural identity among other losses. These responses denote the negative impact that colonizing messages may have had on many AI/ANs' psyches (Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009, p. 35). A study conducted by Wiechelt, Gryczynski, Johnson, and Caldwell (2012) compared their results of historical trauma symptoms in their urban AI/AN sample to the results of AI/ANs living in reservations from the studies conducted by Whitbeck, Adams, Hoyt, and Chen (2004) and Whitbeck, Chen, Hoyt, and Adams (2004). According to Wiechelt and

colleagues (2012), findings suggested that the urban sample in their study had higher scores on historical loss thoughts and symptoms than the scores reported by the reservation participants in Whitbeck, Adams et al. (2004), and Whitbeck, Chen et al. (2004). Wiechelt and colleagues (2012) theorized that for AI/ANs living in urban areas historical trauma might be more severe due to the limited access to cultural connections and stressors associated with living in urban areas such as having low paying jobs. This is a finding for consideration when working with urban AI/ANs.

### **Historical trauma and substance abuse.**

The need for further examination of the relationship between historical trauma and substance abuse was previously identified (Brave Heart, 2003; Myhra, 2011; Morgan & Freeman, 2009; Walls, Whitbeck, Hoyt, & Johnson, 2007). Substance abuse is a challenge for many AI/AN communities dating back to the beginning of the American Indian Holocaust. Many of these communities continue to disproportionately suffer the effects of substance abuse on their physical and mental health (Volkow & Warren, 2012, p. 371). It is important to note that “substance abuse was not a part of [AI/AN] traditional way of life” and that it can be reduced with the work of current and future generations (Myhra, 2011, p. 35). Shifting the focus from stigmatizing and stereotyping AI/AN communities to acknowledging the effects that colonization may have had the on substance abuse problems experienced by some AI/AN peoples may assist in addressing this issue. It may also assist in the development of culturally tailored substance abuse interventions (Myhra, 2011; Walters & Simoni, 2002).

Substance abuse has been proposed as an externalizing behavior for coping with historical trauma (Brave Heart, 2003). Thoughts of historical trauma losses have been found to be comorbid with substance abuse and post-traumatic stress disorder (Ehlers, Gizer, Gilder,

Ellingson, & Yehuda, 2013). For some AI/ANs, substance abuse is connected with both historical and present trauma. In the words of an AI/AN research participant, “to heal from historical trauma is to heal from substance abuse... one and the same.” (Myhra, 2011, p. 34). AI/AN participants in various research projects have linked their poor health to their substance abuse (Myhra, 2011; Goodkind, Hess, Gorman, & Parker, 2012; Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003; Myhra, 2011). Substance abuse is also connected to the high prevalence of self-injury and suicide in AI/AN populations (Barlow et al., 2012). Alcohol and other drug use have also been linked to HIV infection and sexual risk behaviors that threaten the health of AI/ANs (Duran & Walters, 2004). Overall, substance abuse poses a deadly threat to the lives and well-being of many AI/ANs living in the U.S. making its study significant.

### ***Alcohol.***

Alcohol is considered to be the most prevalent substance abused by AI/ANs living in the U.S. (SAMHSA, 2012). Several researchers have discussed the negative impact of alcohol on the physical, mental, and spiritual health of AI/ANs (Brave Heart & DeBruyn, 1998; Duran & Duran, 1995; Walters, Simoni, & Evans-Campbell, 2002). Alcohol abuse has been linked to a number of diseases and early deaths in AI/AN populations (Landen, Roeber, Naimi, Nielsen, & Sewell, 2014). One of the biggest misconceptions about alcohol use in AI/AN populations is that alcoholism (or alcohol dependence) is the main problem, when alcohol abuse rather than dependence is more prevalent in these populations (May, 1994). Another major misconception is that all or most AI/ANs abuse alcohol. “Of major concern in the epidemiology of AI/AN drinking is the fact that drinkers and their drinking patterns generate a large and disproportionate toll in terms of morbidity and mortality. Even though a number of AI/ANs are abstainers at any one period in time, those who do drink tend to ingest excessive amounts over a short period of



time” (May & Gossage, 2001, p. 2). While rates of alcohol abuse among AI/ANs are high in comparison to other racial/ethnic groups, there is ample variation of alcohol abuse among Tribes, regions and individuals (May, 1994; Walters, Simoni, & Evans-Campbell, 2002). Duran and Duran (1995) argued that public health research on AI/ANs and alcohol abuse has been focused on individual problems or maladaptive behaviors, rather than on larger contextual factors that may influence alcohol abuse. Most of the research on alcohol abuse in AI/ANs has not considered the possibility that cumulative historical trauma from colonization and ongoing stressors associated with current oppression may have impacted alcohol use (Walters, Simoni, & Evans-Campbell, 2002).

Before colonization, few Tribes had access to alcohol and those Tribes who utilized alcohol, did it within ceremonial contexts (Brave Heart & DeBruyn, 1998; Volko & Warren, 2012). Upon the arrival of colonizers, the use of and access to alcohol significantly transformed. Colonizers utilized alcohol as one of their main tools to assert their power over indigenous people. Alcohol was introduced during treaty negotiations (Brave Heart-Jordan & DeBruyn, 1995). Once colonizers succeeded in introducing alcohol abuse to indigenous people, they continued to assert their power through the creation of narratives that promoted negative stereotypes of AI/ANs (Deloria, 2003; May, 1994). The stereotype of the “drunken Indian” was promoted by colonizers and has, over the centuries, been internalized by AI/ANs to the point that many believe becoming alcoholics is their destiny (Duran & Duran, 1995; May, 1994; Myhra, 2011; Walls, Whitbeck, Hoyt, & Johnson, 2007). The “drunken Indian” stereotype is still alive and present in our current society. Many of the research studies conducted without indigenous frameworks contribute to the perpetuation and proliferation of this stereotype.

Even though drinking was a learned behavior from colonizers, alcohol has become a part of AI/AN identity through the internalization of stereotypes and has had devastating results to the health and morale of these populations (Brave Heart & DeBruyn, 1998; Duran & Duran, 1995). According to Myhra, “for many participants [in their study], substance abuse was a surrender to what they understood, since their youth, to be their fate, and also signified to them their defeat by the dominant culture” (2011, p. 31). Goodkind, Hess, Gorman, and Parker stated that “the way participants spoke about alcohol, its introduction into the community, the impact on traditional ways of life, family structures, and parenting practices might be seen almost as a stand-in for the disruption and effects of colonization, discrimination, and its continuing effects” (2012, p. 1029). Data from focus groups conducted with both urban and rural AI/ANs throughout Oklahoma also reflected the serious concerns that many AI/ANs have with alcohol and drug abuse in their communities (Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003). Participants in these studies are aware of some of the negative consequences alcohol has had in their communities such as domestic and other family violence, motor vehicle accidents, and suicide. At the same time, the internalization of oppression and the lack of culturally appropriate resources have created barriers to assist in the recovery from the damage caused by this substance (Goodkind, Hess, Gorman, & Parker, 2012; Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003; Myhra, 2011).

A study with four AI/AN reservations from Northern Tribes demonstrated that males in their sample initiated drinking at an early age, with about 60% of the male participants under the age of 40 reporting drinking 5 or more drinks per occasion within the last 30 days (May & Gossage, 2001). Walls, Whitbeck, Hoyt, and Johnson’s (2007) study with AI/AN female caregivers and their adolescents corroborated the existence of significant relationships between

female caregivers' alcohol abuse and the early onset of drinking in the youth from their sample. Even though this study demonstrated the impact of binge drinking on youth, it is important to note that many youth and caretakers in this sample did not drink alcohol (Walls, Whitbeck, Hoyt, & Johnson, 2007).

Current alcohol abuse in AI/AN populations has been conceptualized in multiple ways. It has been conceptualized as a way to cope with the historical trauma losses that may be associated with genocide (Brave Heart & DeBruyn, 1998), and/or to cope with current stressors faced by AI/ANs such as discrimination and poverty (Walters & Simoni, 2002; Walters, Simoni, & Evans-Campbell, 2002). Alcohol abuse has been linked to depression and unresolved grief from historical trauma (Brave Heart & DeBruyn, 1998). Whitbeck, Walls, Johnson, Morrisseau, and McDougall (2009) hypothesized “that growing up in a cultural context of reminders of ethnic cleansing may contribute to adolescent depression and demoralization, which in turn contribute to negative developmental outcomes such as early-onset alcohol and drug use, school leaving, and the high suicide rates found in some Indigenous communities” (p. 17). Their findings demonstrated that historical loss thoughts associated with the AI/AN Holocaust were in the minds of 1/5 of the adolescents in their sample and it was correlated with depression symptoms (Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009). This is consistent with indigenous worldviews of interconnectedness through generations (Rouse, 2014).

As suggested by Duran and Duran (1995), alcohol may have been a type of anesthesia for many AI/ANs to appease the anger and pain associated with genocide. Duran and Duran argued that the increased incidence of alcohol abuse and dependence among AI/ANs is an indicator of the harmful medicinal role alcohol has taken to keep AI/AN peoples' rage at bay. Whitbeck, Chen, Hoyt, and Adams (2004) added that, “alcohol abuse may serve to reduce

intrusive thoughts or feelings related to historical loss and to numb reminders of that loss.

Alcohol abuse may also represent anger manifested in self-destructive behaviors” (p. 416). In a qualitative study by Myhra (2011), nearly all participants linked their alcohol abuse as a way of numbing themselves from stressors associated with historical trauma, racism and discrimination. Participants also connected historical trauma with the substance abuse of previous generations in their families. Furthermore, participants in that study stated that AI/ANs often abused alcohol because of the continued oppression they had to deal with on an ongoing basis (Myhra, 2011).

Alcohol abuse has also been conceptualized as a self-destructive behavior that signals the internalization of oppression from colonization (Duran & Duran, 1995). “Present generations of AI/ANs face repeated traumatic losses of relatives and community members through alcohol-related accidents, homicide and suicide” (Brave Heart & DeBruyn, 1998, p. 64). Findings from a reservation study suggested that alcohol abuse in this community was related to coping with historical trauma, but instead of helping manage trauma, it led to additional problems such as increasing the risk for violence, accidents, and health problems (Jervis & AI-SUPERPPF Team, 2009). Historical loss was positively associated with alcohol abuse in female participants from several reservations (Whitbeck, Chen, Hoyt, & Adams, 2004). Alcohol has also been associated with poor parenting practices. AI/AN parents who were a product of the Boarding School Era or who had parents who were, identified the negative impact alcohol has had on their parenting (Brave Heart, 1999). These participants identified how historical losses have stripped them of traditional parenting skills and have continued to cause harm in each generation (Brave Heart, 1999).

While most of the research has focused on AI/ANs living in reservations or rural areas, there is some evidence that alcohol abuse is higher among urban AI/ANs than those who live on

reservations or rural areas (May, 1996). In a study that included participants from both urban and rural treatment centers, “alcohol was the most commonly reported substance abused; 74% of the total sample reported regular alcohol use for at least 1 year (urban= 82%, rural plains= 69%)” (Rieckmann et al., 2012). A study of urban AI/ANs seeking substance abuse treatment in a non-tribal clinic located in the Northern Plains region suggested that alcohol was the primary substance that participants were abusing (Kropp et al., 2013). In another study with urban gay, lesbian, bisexual, and transgender AI/ANs, participants who identified as having attended boarding school were more likely to engage in alcohol abuse or dependence (Evans-Campbell, Walters, Pearson, & Campbell, 2012). Results from another urban AI/AN sample suggested that participants with higher historical loss symptoms were more likely to have used alcohol within the last 30 days (Wiechelt, Gryczynski, Johnson, & Caldwell, 2012). These studies demonstrate the need to further research urban AI/ANs’ alcohol abuse and its relation to historical trauma.

### ***Commercial tobacco.***

Apart from alcohol, commercial tobacco is one of the biggest health threats for AI/ANs today contributing to the development of health problems such as cancer and cardiovascular disease (American Heart Association, 2013; U.S. Department of Health and Human Services, Office of the Surgeon General, 2014). High smoking and commercial tobacco abuse rates among AI/AN populations have been widely documented (Burgess et al., 2007; CDC, 2014; Daley et al., 2011; Fu et al., 2010; Gryczynski et al., 2010). The Center for Disease Control and Prevention (2012) estimated that 31.4% of AI/ANs are smokers, which is the highest prevalence of any ethnic group in the U.S. with 21% of Caucasians, 20.6% of African Americans, 12.5% of Hispanic/Latinos, and 9.2% of Asians being smokers. Data collected between 2005 and 2012 by the National Health Survey (Agaku, King, & Dube, 2014), suggested a higher rate of 37.5% of

AI/ANs being current cigarette smokers with other ethnic groups' current smoking rates as 26.7% for Blacks, 26.1% for Multiracial, 24% for Whites, 21.1% for Latino/Hispanics, and 20.6% for Asian individuals. Both data sets suggest that AI/AN peoples, as a whole population, exceed the smoking rates of all other populations in the U.S. (Agaku, King, & Dube, 2014; CDC, 2014). Commercial tobacco abuse is not a problem for all AI/AN communities and it varies greatly by region. The Midwest region of the U.S., a part of the commonly referred "Northern Plains", is one of the most affected regions for health disparities and substance abuse issues among AI/ANs (CDC, 1998). Smoking and associated lung cancer, heart disease, and death rates are highest in the Northern Plains (CDC, 1998; Plescia, Henley, Pate, Underwood, & Rhodes, 2014).

One of the main and most damaging misconceptions about tobacco use by AI/ANs is that commercial tobacco use is a traditional part of AI/AN cultures (Angstman, Harris, Goldbeck, & Swaney, 2009; Burgess et al., 2007). On the contrary, the use of commercial tobacco is considered the abuse of a sacred plant and is not a traditional practice ("Traditional vs. Commercial", 2013). Prior to colonization, many Tribes honored the sacred role of tobacco. Traditional teachings provide specific instructions for the sacred use of tobacco that do not align with the addictive use of the plant for smoking cigarettes or chewing tobacco (Alomá, Lira, & López, 2013). Upon the arrival of colonizers and implementation of forced assimilation practices, the use of tobacco became abusive (Smith, 2005).

According to Brokenleg and Tornes (2013), traditional and ceremonial sacred tobacco usually comes from a plant named *Nicotiana Rustica*. Traditional tobacco may be smoked in a sacred pipe but, unlike commercial tobacco, the smoke is not inhaled into the lungs. Some Tribes also utilize plants such as red willow as sacred tobacco. On the other hand, commercial

tobacco comes from a plant named *Nicotiana tabacum* from which commercial cigarettes, cigars, and spit tobacco, among others, are made and sold to the public (Brokenleg & Tornes, 2013). Commercial tobacco is usually inhaled into the lungs and used recreationally in ways that are harmful to human health and incongruent with traditional teachings (Alomá, Lira, & López, 2013).

Traditional AI/AN teachings include the positive uses of tobacco associated with spirituality, such as giving it as an offering when asking for help or guidance, or for healing purposes (Daley et al., 2011; McCabe, 2008). Tobacco can be safely utilized (without inhalation) in a number of culturally appropriate ways during ceremonies. The use of traditional tobacco and the practices surrounding it greatly differ among Tribes and not all Tribes utilize tobacco (Alomá, Lira, & López, 2013; Daley et al., 2011). Many AI/AN traditional teachings have been misplaced through the different eras of the AI/AN Holocaust. The losses of cultural and spiritual practices resulting from genocide may have impacted the access to traditional knowledge for distinguishing traditional and commercial tobacco and its use. The differences between tobacco types and uses appear to be less known in both AI/AN communities and in the general U.S. population, establishing a sense of normalcy around the use of commercial tobacco among many young AI/AN generations (Angstman, Harris, Golbeck, & Swaney, 2009).

For some AI/AN individuals, the use of commercial tobacco has become part of contemporary AI/AN identity. In a sample of urban AI/ANs in the Northern Plains, those who exhibited high AI/AN cultural identification were more likely to smoke commercial tobacco than those with high White cultural identification (Angstman, Harris, Goldbeck, & Swaney, 2009). Many AI/ANs have reported smoking their first commercial cigarettes in cultural events such as

powwows (Burgess et al., 2007). These findings speak to the potential injuries of colonization and forced assimilation to the health behaviors and traditional practices of many AI/ANs.

The sacred role of tobacco for some AI/AN populations has often been ignored in the literature. In many occasions in which its role has been documented, misconceptions about traditional use have further promoted miseducation about this important aspect of some AI/AN cultures (Alomá, Lira, & López, 2013). Misconceptions are often associated with forced assimilation and the discredit of indigenous epistemologies. They can also result from researchers relying on participants with more assimilated perspectives of tobacco use, who unknowingly label these views as traditional tobacco use, when instead these practices are considered by traditional teachings to be abuse of the plant (“Traditional vs. Commercial”, 2013).

### **Cultural losses.**

A key aspect of historical trauma theory is its intergenerational transmission (Brave Heart, 1999). The history of genocide endured by AI/ANs along with the forced assimilation imposed by the U.S. government through different eras is believed to be a vehicle in the transmission of trauma across generations. Since colonization, there has not been a time in AI/AN history that was not marked by forced assimilation practices and discrimination. Even in the new millennium, we constantly hear the media discuss oppressive practices such as refusing to rename or change the mascots of athletic teams that have disparaging AI/AN names, images, or stereotypes. The intergenerational transmission of historical trauma may be influenced by distortions of ethnic identity and values that were produced through force assimilation practices and messages about identity (Brave Heart, 1999). Colonizers and mainstream society have perpetuated these distortions. Some of these distortions are thought to have been internalized by



many AI/ANs as part of their present identity and transmitted across generations (Duran & Duran, 1995; Grant, 2008).

The literature on proximal and distal stressors for AI/ANs examined so far provides themes related to the high incidence of various illnesses and health disparities, the high prevalence of substance abuse including commercial tobacco and alcohol abuse, the symptoms of historical trauma and loss, and other contemporary stressors such as discrimination. We can refer to these themes as forced assimilation and cultural losses. AI/ANs who have identified being affected by historical trauma may experience unresolved grief associated with being stripped of their culture and identity (Grant, 2008). One of the reported injuries of the AI/AN Holocaust is the elimination of a healthy sense of cultural identity (Grant, 2008). Duran and Duran (1995) explained the loss of culture through forced assimilation as an important contributor to unhealthy behaviors. Grant (2008) noted that symptoms of historical trauma capture the devastating impact that oppression and forced assimilation has had on AI/ANs.

The historical trauma literature suggests that the loss of culture has contributed to the demoralization of AI/AN peoples. AI/AN participants from various studies have made connections between the current issues faced by many AI/ANs and the historical trauma resulting from genocide. In a study by Goodkind, Hess, Gorman, and Parker (2012) community members described the negative psychological and intergenerational effects of the loss of culture, language, and ceremonial teachings. Older participants discussed the loss of the ability to show their emotions to one another and to care for one another. Younger participants in this study were less likely to make the connection between historical events and the current difficulties experienced by many AI/ANs. The authors suggested that a breakdown in

communication across generations may be related to historical trauma events and the internalization of oppression (Goodkind, Hess, Gorman, & Parker, 2012).

### **Healing and the return to traditional practices.**

Increasing enculturation and the learning of traditional practices may serve as protective factors for AI/ANs against the potential effects of historical trauma, present day discrimination, and other stressors (Gone, 2010; Myhra, 2011; Torres Stone, Whitbeck, Chen, Hoyt, & Adams, 2004; Whitbeck, Chen, Johnson, & Olson, 2006). “Decolonization is the intentional, collective, and reflective self-examination undertaken by formerly colonized peoples that results in shared remedial action” (Gone, 2009, p. 759). A number of AI/AN communities have been involved in decolonization efforts through the return to traditional practices that promote positive ethnic identity and culture. Some communities are also attempting to focus on resilience as they grieve the historical losses. In the words of an AI/AN participant, “there’s been plenty of loss, plenty of grief, plenty of tragedy, but we’re still here and we’re still surviving” (Myhra, 2011, p.30). According to Brave Heart and DeBruyn, (1998) embracing the array of feelings, positive and negative, is key in regaining spiritual balance and healing from historical trauma.

Factors of AI/AN healing believed to assist with recovering from past colonization and present stressors include an increased understanding of “childhood pain that led to adult dysfunction”, a “cathartic expression” of this pain, and a “reclamation of indigenous heritage to remedy the damage of European colonization” (Gone, 2009, p. 758). “Reclaiming history”, “cultural interventions”, and “therapeutic healing” have been identified as part of the healing process (Gone, 2013, p. 693). The concept of “culture-as-treatment” has gained popularity as engagement in cultural and spiritual practices may assist in promoting “shifts in collective identity, purpose, and meaning making” among AI/AN peoples (Gone, 2013, p. 697). Many

AI/AN research participants have also underlined the need to stop the intergenerational cycle of trauma and the importance of healing through reconnecting with their culture and spirituality (Myhra, 2011). The effects of traditional cultural and health practices as protective factors for historical trauma are still unclear. Furthermore, what constitutes “traditional practices” may vary greatly Tribe-by-Tribe. The legitimacy of certain traditional practices may be difficult to ascertain given some of the losses of indigenous ways of knowing resulting from colonization efforts. For urban AI/ANs, access to Tribe-specific cultural and spiritual practices may be limited given their distance from their Tribal reservations.

### **Literature Critique**

The construct of the “historical trauma” or “soul wound” phenomenon is still under development. Many theories have been proposed to explain how historical trauma operates and some have questioned the validity of this construct as it is currently conceptualized. The unknown prevalence of historical trauma and the widespread symptomatology that appears to be associated with it poses a challenge to its operationalization using Western research methodologies (Whitbeck, Chen, Hoyt, & Adams, 2004). Most of the literature on historical trauma consists of theoretical inferences about health outcomes with limited empirical research on the impact of historical trauma on these health outcomes (Walters et al., 2011). On the other hand, the majority of studies that empirically address AI/AN health pay limited to no consideration to potential effects of historical factors associated with colonization on the current context of AI/AN health. Moreover, the extant empirical studies of the historical trauma phenomenon are often of AI/ANs living in rural or reservation areas. Little is known about the potential manifestation of historical trauma for urban AI/AN peoples. With the majority of AI/ANs currently living in urban areas, research on factors that may impact the health of urban

AI/ANs may be of benefit (Wendt & Gone, 2012). Empirical theory testing of existing historical trauma models may assist in gaining clarity regarding the presence of this phenomenon in AI/AN peoples who live in urban areas and the effect of historical trauma on health outcomes.

It is currently unclear if there are existing connections among the higher health risks and undesirable health outcomes faced by urban AI/ANs, and the historical losses resulting from colonization. The current extreme stressors faced by AI/AN peoples confound the study of any potential distal causes for these health outcomes. The unique challenges faced by AI/AN peoples who live in urban areas add another layer of complexity to the study of health outcomes in these populations. The potential roles of proximal stressors, such as present day discrimination, and of distal stressors, such as historical losses, on health outcomes have not been empirically examined in conjunction. Further investigation into these factors may determine if they play a role in the current health disparities of urban AI/ANs. Increased understanding of proximal and distal stressors for urban AI/AN peoples may contribute to successful health equity community-driven initiatives.

Duran and Duran (1995) proposed that “once a group of people have been assaulted in a genocidal fashion, there are psychological ramifications. With the victim’s complete loss of power comes despair, and the psyche reacts by internalizing what appears to be genuine power—the power of the oppressor... the self-worth of the individual and/or group has sunk to a level of despair tantamount to self-hatred” (p. 29). Even though historical trauma is not classified as a mental illness under the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), the potential for clinically significant effects associated with it warrants further study of this phenomenon from an applied psychology field. As discussed by Duran and Duran (2005), the “loss of culture has been shown to be one

factor that contributes to unhealthy lifestyle, yet culture is systematically being lost in treatment programs that are not sensitive to the cultural worldview of Native American people” (p.103). Empirical research into this topic may contribute to the development of culturally tailored interventions in partnership with AI/AN communities that may assist in health equity efforts, as well as contribute to the empowerment of AI/AN peoples.

The colonial discourse utilized by mainstream society to justify the morbidity and mortality statistics among AI/ANs has misplaced responsibility for the origins of these problems. These narratives resulting from the American Indian Holocaust have promoted harmful stereotypes of AI/ANs that may have been internalized by many. Internalization of stereotypes may have furthered impacted AI/AN identity and wellness. Results from research that takes into consideration the contextual factors influencing health disparities for these groups, as well as the cultural variables that may impact health outcomes, could assist in decolonization efforts.

The post-colonial literature has begun to move the discourse surrounding AI/ANs from reporting disparities to focusing on the resilience and strengths of these communities. A strengths-based approach is necessary to advance understanding of the protective factors associated with historical trauma, health outcomes, and substance use. Including exploration of psychosocial cultural factors in research studies of historical trauma may assist in identifying protective factors for AI/AN health outcomes. Additional understanding of different psychosocial cultural variables and their relationships to AI/AN stressors and health outcomes may assist in efforts to support resilience factors that may already be in place in these communities. Supporting the shift from documenting health disparities, substance abuse, and mental illness to examining the health-promoting behaviors and resilience building cultural

factors of AI/ANs may assist these communities' healing efforts. Studying these variables through a counseling psychology lens may contribute to this endeavor.

## **The Present Study**

### **Goals**

The present study had several goals. First, the study aimed to determine the existence and/or prevalence of historical loss and its associated symptoms as operationalized by Whitbeck, Adams, Hoyt, and Chen (2004) in an urban sample of AI/AN adults living in the Midwest region of the U.S. Second, the study intended to contribute to the extant literature on historical trauma and on AI/AN health outcomes by empirically testing proposed theoretical models to explain AI/AN health disparities (Walters & Simoni, 2002; Whitbeck, Adams, Hoyt, & Chen, 2004). Third, the study aimed to increase understanding about the complex relationships among proximal (perceived discrimination) and distal (historical loss) stressors faced by urban AI/AN adults and their health outcomes, while taking into account other known social determinants of health and AI/AN specific extreme stressors. Fourth, the study set out to explore whether different psychosocial cultural factors may influence any potential impact that historical loss may have on the health outcomes of this urban sample. Fifth, this study was designed to contribute to the knowledgebase on urban AI/AN adults and the unique experiences they encounter living away from their Tribes. Lastly, this study aims to support local urban AI/AN-serving organizations in efforts to promote health equity among these communities through project collaboration and sharing of study results.

### **Research Questions and Hypotheses**

**The prevalence of historical loss thoughts and its associated symptoms (Whitbeck, Adams, Hoyt, & Chen, 2004).**

The prevalence of historical loss in this sample will be examined with the framework developed by Whitbeck, Adams, Hoyt, and Chen (2004). This framework includes historical loss thoughts (HLS) as predictors of historical loss associated symptoms (HLAS). For the purposes of this study, historical loss thoughts include thoughts about: the loss of land, the loss of language, the loss of traditional spiritual ways, the loss of family ties due to boarding schools, the loss of families from reservations due to government relocation, the loss of self-respect from poor treatment by the government, the loss of trust in Whites from broken treaties, the loss of culture, the losses from the effects of alcoholism, the loss of respect for elders by children, the loss of people through early death, and the loss of respect of traditional ways by children (Whitbeck, Adams, Hoyt, & Chen, 2004). Historical loss associated symptoms include: sadness/depression, anger, anxiety/nervousness, being uncomfortable around White people, shame, loss of concentration, feeling isolated or distant from others, loss of sleep, rage, fear/distrust of White people's intentions, feeling like losses are happening again, and feeling like avoiding places or people that remind you of losses (Whitbeck, Adams, Hoyt, & Chen, 2004).

***Research question #1.***

What is the prevalence of historical loss (HLS) and historical loss associated symptoms (HLAS) for this sample of urban AI/AN adults?

***Hypothesis #1.***

There will be a significant prevalence of historical loss (HLS) and historical loss associated symptoms (HLAS) for this sample of urban AI/AN adults (see Figure 1).

**The proximal stressor model (Whitbeck, Adams, Hoyt, & Chen, 2004).**

The proximal stressor model is based on Whitbeck, Adams, Hoyt, and Chen's (2004) theory that a present day stressor such as discrimination may impact historical loss associated symptoms, with historical loss thoughts moderating this relationship.

***Research Question #2.***

Whitbeck, Adams, Hoyt, and Chen's (2004) theory will be tested to answer the question: Will a proximal stressor such as perceived discrimination (PD), and a distal stressor such as historical loss thoughts (HLS) significantly contribute to the overall variance of historical loss associated symptoms (HLAS)?

***Hypothesis #2.***

Perceived discrimination (PD) will significantly contribute to the overall variance of historical loss associated symptoms (HLAS) and this relationship will be strengthened by historical loss thoughts (HLS) (see Figure 2).

**The distal stressor model (Walters & Simoni, 2002).**

The distal stressor model is based on Walters and Simoni's (2002) Indigenist Stress-Coping Model, which proposed that cultural variables may serve as a buffer or moderator between historical stressors, and the health outcomes of AI/ANs.

***Research Question #3.***

Walter and Simoni's (2002) Indigenist Stress-Coping Model will be tested to answer the question: Will historical loss and psychosocial cultural variables (ethnic identity [EI], mainstream comfort [MC], social affiliation [SA]) significantly contribute to the overall variance of respective health outcomes (i.e. health-promoting behaviors, alcohol abuse, commercial cigarette abuse, commercial smokeless tobacco abuse, historical loss associated symptoms)?



### ***Hypothesis #3.***

Historical loss will significantly contribute to the overall variance in health outcomes (i.e. health outcomes- health-promoting behaviors [HPLP], substance abuse outcomes- alcohol abuse [AA], commercial cigarette abuse [CC], commercial smokeless tobacco abuse [ST], mental health outcomes- historical loss associated symptoms [HLAS]) and these relationships will be influenced by the psychosocial cultural factors (i.e. ethnic identity attitudes [EI], mainstream comfort [MC], social affiliation/intimacy [SA]) (see Figure 3).

### **Relationships among other study variables.**

Additional relationships among other study variables will be explored.

### ***Research Question #4.***

Are there other significant relationships among variables (i.e. diagnoses of physical/mental illnesses, traditional health practices) and other study variables (i.e. proximal stressors, distal stressors, and health outcomes)?

### ***Hypothesis #4.***

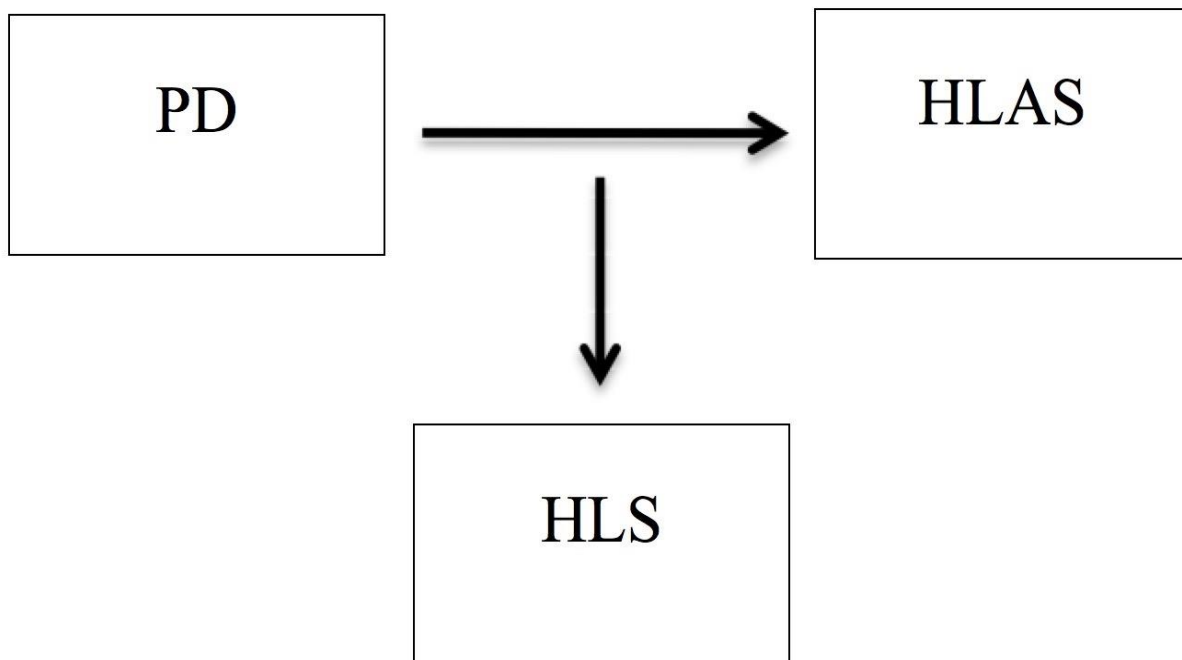
There will be significant relationships among some of these variables, although the type of the relationship (positive or negative) will not be hypothesized at this time due to the exploratory nature of this research question.

**Figure 1.** Prevalence of Historical Loss and Associated Symptoms.



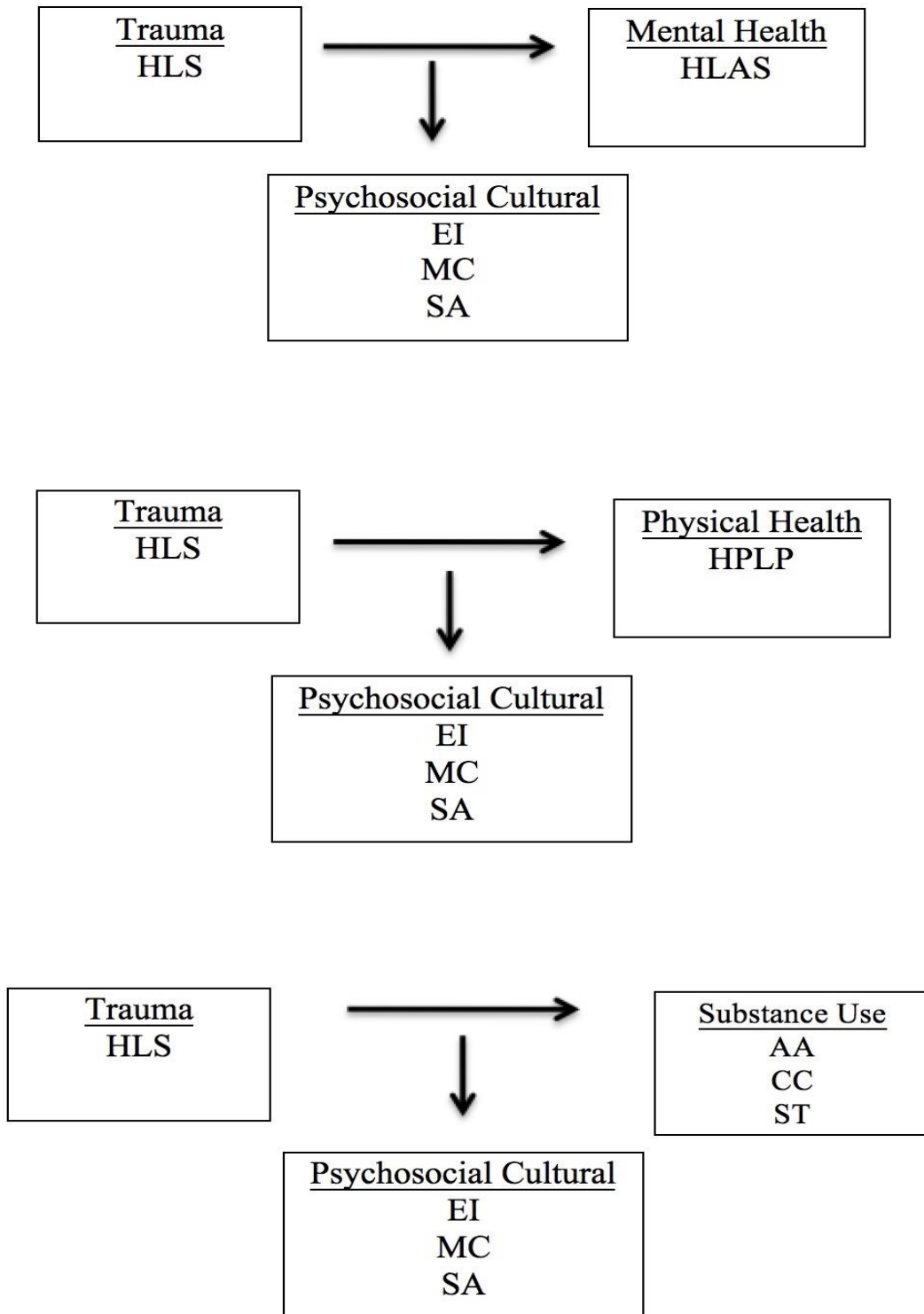
**Note.** HLS= Historical Loss Thoughts, HLAS= Historical Loss Associated Symptoms

**Figure 2.** Proximal Stressor Model.



**Note.** PD= Perceived Discrimination, HLS= Historical Loss Thoughts, HLAS= Historical Loss Associated Symptoms

**Figure 3.** Distal Stressor Model.



**Note.** HLS= Historical Loss Thoughts, HLAS= Historical Loss Associated Symptoms, HPLP= Health-Promoting Behaviors, AA= Alcohol Use, CC= Commercial Cigarette Use, ST= Smokeless Tobacco Use, EI= Ethnic Identity, MC= Mainstream Comfort, SA= Social Affiliation

## Chapter 3

### Method

This chapter describes the methodology utilized in this dissertation study to investigate the research questions stated in Chapter 2. The chapter begins discussing the frameworks utilized as lenses for this project. Next, this author's experiences in entering the local urban community as a non-AI/AN researcher are described, and the collaborations with community agencies throughout this project is delineated. Participation criteria, a priori power analysis, sampling methods, and participant descriptive data follows. The recruitment processes, data collection procedures, study measures, and data analyses procedures are delineated in the later portion of this chapter.

#### Frameworks

The current study utilized a community informed framework through collaboration with multiple urban AI/AN-serving agencies. This study was partially informed by Community Based Participatory Research (CBPR; Christopher, Watts, Knows His Gun McCormick, & Young, 2008) and Tribal Participatory Research (TPR; Fischer & Ball, 2003) frameworks for working with indigenous communities. Unlike customary practice in CBPR and TPR methodologies, the initial research questions and study design were conceptualized by this author as part of the original dissertation requirement. The research questions and design were highly influenced by this author's experiences, described below, working within an urban AI/AN community for approximately two years. The primary objective of this project was to support AI/AN community efforts in reducing mental and physical health disparities for urban AI/ANs. The research questions were informed by previous research from AI/AN scholars in psychology, social work, and public health, as well as other researchers who have worked with AI/AN

communities (e.g., Brave Heart & DeBruyn, 1998; Duran & Duran, 1995; Duran, 2006; Gone & Trimble, 2012; Walters & Simoni, 2002; Whitbeck et al. 2004)

The study was funded by a community grant from a nationally recognized program by the National Cancer Center. The primary community partner for this project was an organization that provides employment and career services to AI/AN peoples living in the Southeastern area of a Midwest state. This organization served as the fiscal manager for the community grant and provided additional project consultation. As a result of consultation with this organization, several questions about traditional health practices were added to the demographic measure to ensure the project included important cultural factors associated with resilience.

The project was also reviewed and informed by community feedback from multiple organizations including an urban Tribal agency, an urban AI/AN wellness consortium, an urban Indian health center, and an inter-Tribal council. Additional organizations associated with AI/AN education reviewed the project and assisted with the recruitment process. After the dissertation defense, a community advisory council consisting of members from some of these organizations will be formed to review the results of the study, assist in making sense of these results from a multi-Nation cultural lens, determine how dissemination of results will occur to the urban AI/AN regional community at large, and oversee any manuscripts for publication. Community involvement will culminate with the dissemination of results and recommendations to partner agencies for potential future program development. As consistent with CBPR (Christopher et al. 2008 & 2011) community collaborating agencies will also be invited to participate in the formal publication of results.

Tribal oversight (Fischer & Ball, 2003) was not sought for this study, given the project's objectives included to better understand how the variables studied may impact a diverse urban

AI/AN community that consisted of people with a wide range of Tribal affiliations who lived in a similar geographical area. The study IRB protocol, including all study measures, was sent to a regional inter-Tribal council and an urban AI/AN wellness consortium for the opportunity to review and provide feedback regarding the study. These two entities include AI/AN officials and community leaders representing numerous Tribes in the Midwest area. The inter-Tribal council responded positively to the project proposal and provided no additional feedback. No additional feedback was received from the urban AI/AN wellness consortium, aside from the feedback provided by its community liaison, the manager of this project.

In addition to seeking consultation from the community organizations listed above, the project design also benefited from the expertise of three AI/AN professionals in the dissertation committee, two counseling psychology faculty members (Métis- Le Baye [Baie des Puants]/Prairie du Chien/Mackinac Island Communities and Latina/Navajo), and one community clinical psychologist (Oneida). Additionally, a public health faculty member (African American) was sought to serve in the committee, given the intersection of this dissertation's topic with public health.

### **Community Collaboration**

Prior to this dissertation study, the author entered the local urban AI/AN community through an already established mutually respectful relationship of research and service partnerships between university faculty and an urban Tribal agency. After a vetting process, this author was invited to collaborate with this Tribal agency as part of a different project requested by the Tribe to assist Tribal members in smoking cessation of commercial tobacco cigarettes. The previous project focused on developing a culturally tailored smoking cessation intervention for Tribal members. As part of the preparation to work in the previous project, this author

underwent multiple cultural immersion activities, as well as professional training on AI/AN psychology.

Throughout this preparation process, the author learned about the history of various indigenous groups in North America, became familiar with foundational aspects of worldviews shared by multiple indigenous nations, increased her understanding of mainstream society's misportrayal of AI/AN peoples and indigenous history, became aware of the impact of colonization on indigenous groups and the resilience of indigenous peoples in the face of genocide attempts, and learned some of the current challenges faced by many AI/AN peoples that continue to inhabit the North American continent. This knowledge was partially obtained through Tribally hosted activities including a 2-day conference on sacred tobacco with a sanctioned Lakota healer speaker and a visit to the Tribe's reservation to learn about its history and culture from a community leader. This author also participated in a number of informal immersion activities to become familiar with various AI/AN communities in the Midwest region. Some of the informal cultural immersion activities included attending local cultural events such as a regional winter Pow Wow, an annual AI/AN summer festival, and a cultural dancing event hosted by an AI/AN university organization, among others.

Formal training to increase multicultural competencies in working with AI/AN communities occurred through multiple educational sessions on North American AI/AN history from an AI/AN psychology expert faculty member, attending a symposia addressing historical trauma with AI/AN researchers at an annual American Psychological Association conference, attending an annual Share the Care American Indian Cancer conference hosted on a reservation, attending the Overcoming Racism conference featuring multiple leaders of color including AI/AN community leaders, and immersing herself in academic and non-academic literature by

AI/AN scholars. Additionally, as part of a research team, the opportunity to closely collaborate with the director of a local Tribal agency in developing and piloting the previously stated smoking cessation research project provided other formal opportunities to become familiar with urban AI/AN issues. The previous project allowed this author the privilege of spending time in the community for approximately one year, delivering a culturally tailored smoking cessation intervention to Tribal members at their local urban tribal agency.

This author also had other opportunities to engage in multiple professional immersion activities in the larger local urban AI/AN community. One of these activities included serving as a student consultant on a team project in collaboration with an AI/AN-serving agency to develop materials to assist their AI/AN consumers in career planning and job seeking. This consulting project included closely collaborating with this agency's director to understand their consumer's needs in developing culturally tailored materials for the purposes described above. Another professional activity allowed this writer to be a part of another Tribe's smoking cessation project that consisted of a weekend family retreat intervention on their reservation to assist multiple family members in quitting smoking. All of these activities influenced this author's desire to join in social justice efforts by conducting this dissertation project on a topic that may contribute to health equity for AI/AN communities.

For the present dissertation study, this author placed consideration on continuing to build on the trust extended by community leaders in previous projects and connecting with the community in a respectful manner. This author took multiple steps in her efforts to acknowledge how her personal and institutional histories may influence her work with AI/AN communities as recommended by Christopher, Watts, Knows His Gun McCormick, and Young (2008).

Throughout the course of this project, the author worked on this by exploring and acknowledging



how her own personal history as a non-AI/AN, Latina identified (Cuban descent, Puerto Rican nationality, middle class female, who grew up in the colonized nation of Puerto Rico) impacted her work as a researcher. Efforts to engage in decolonized thinking were challenging due to the impact of internalized racism and colonial discourse of her upbringing. These difficulties initially came as a surprise to this author, as they seemed incongruent with the solidarity she had experienced in her connection with AI/AN communities through her academic learning.

Some additional steps included taking the advice of AI/AN professionals, elders, and community members at different points of the project, clarifying project expectations and modifying recruitment processes as a result of feedback, engaging in discussions and individual contemplation to increase self-reflective awareness, considering her privilege as a non-AI/AN, middle class professional, noting her emotional reactions when in contact with participants, and acknowledging that she may never fully understand the central phenomenon of this dissertation—the “soul wound” (Christopher, Watts, Knows His Gun McCormick, & Young, 2008).

## **Participants**

### **Inclusion Criteria.**

Participants self-identified as AI/AN adults of at least 18 years of age, who lived in urban, suburban, or metropolitan areas of the Midwest region of the United States at the time of the study. Even though many Tribes were divided by the historic redrafting of boundaries between the U.S., Canada, and Mexico, the current study only recruited participants currently living in the U.S., given differences in funding and legal relationships among AI/AN people and these three countries. For the purposes of this study, “urban areas” are defined as cities with larger concentrations of people (over 100,000) and “suburban areas” are defined as the residential areas outside cities, or smaller cities that form part of a larger metropolitan area.

### **Power analyses.**

G\*Power 3.1 was utilized to conduct a priori power analyses to determine the sample size for this study to achieve the standard power level of .80. Power analyses for f-test indicated that 55 participants were needed to detect a medium effect size and 264 to detect a small effect size. Power analyses for a z-test indicated that 242 participants were needed to detect odds-ratio effects. The participation target goal was between 250 to 300 participants.

### **Descriptive data.**

A total of 285 AI/AN adults participated in this study, their ages ranging from 18 to 83 ( $M= 44.90$ ,  $SD= 15.717$ ,  $N= 282$ , 1 participant did not answer). The total participant number of 285 was reduced for analyses to 283 due to a case of extreme outliers and one participant indicating that he did not identify as AI/AN after beginning participation in the study. The process for removal of these data is delineated in Chapter 4. Nearly 77% of the participants identified as female ( $n= 217$ ), 23% as male ( $n= 65$ ), and 0.4% as transgender ( $n= 1$ ).

The participants self-identified by Tribe and/or Band (see Table 1). In this sample, 86.2% of participants self-identified as being enrolled members of a Tribe ( $n= 244$ ), 9.9% identified as descendants of a Tribe(s) ( $n= 28$ ), and 11 participants did not answer. Approximately 80% of participants indicated that they primarily lived in an urban area at the time of the study ( $n= 227$ ), and about 20% indicated that they lived in a suburban area at the time of this study ( $n= 56$ ). While participants verbally confirmed identification as AI/AN during recruitment, they self-identified by their Tribal affiliation on the demographic sheet. In addition to Tribal identification, 26.5% of participants indicated that they were members of other racial/ethnic groups ( $n= 75$ ) including 11% identifying as Latino/a ( $n= 31$ ), 8.1% as White ( $n= 23$ ), 3.5% as American Indian/Native American/Indigenous, 1.4% as Black, ( $n= 4$ ), 0.4% as

Asian ( $n= 1$ ), and 6 participants who indicated being a member of another racial/ethnic group did not specify which group.

**Table 1.** Participants' Primary Tribal/Band Affiliation (N=283)

Tribal Affiliation	Frequency	Percent	Tribal Affiliation	Frequency	Percent
Apache	2	0.7	Ojibwe (KBIC-Baraga)	1	0.4
Bad River	14	4.9	Ojibwe Walpole Island	2	0.7
Cheyenne River Sioux	1	0.4	Oneida	107	37.8
Chippewa	8	2.8	Ottawa	1	0.4
Chumash	2	0.7	Owata	1	0.4
Confederated Tribes of Warm Springs Oregon	1	0.4	Poarch Creek	1	0.4
Crow	1	0.4	Potawatomi	4	1.4
Forest County Potawatomi	4	1.4	Potawatomi Prairie Band	1	0.4
Grand Traverse Band of Ottawa	4	1.4	Red Cliff Ojibwe	3	1.1
Ho-Chunk	26	9.2	Red Lake Band of Chippewa	3	1.1
Keweenaw Bay	3	1.1	San Carlos Apache	1	0.4
Lac Courte Oreilles	3	1.1	Soakogan Chippewa	1	0.4
Lac du Flambeau	8	2.8	Spirit Lake Sioux	2	0.7
LCD Chippewa	1	0.4	Stockbridge Munsee	6	2.1
Little River Band of Ottawa	1	0.4	Stockbridge Munsee Band of the Mohican	2	0.7
Menominee	40	14.1	Turtle Mountain Band of Chippewa	3	1.1
Mille Lacs	1	0.4	White Earth Chippewa	1	0.4
Mole Lake	2	0.7	White Earth Ojibwe	2	0.7
Navajo	2	0.7	Winnebago	1	0.4
Ojibwe	12	4.3	Missing Data	3	1.1

In this sample, 86.2% of participants self-identified as being enrolled members of a Tribe ( $n= 244$ ), 9.9% identified as descendants of a Tribe(s) ( $n= 28$ ), and 11 participants did not answer. Approximately 80% of participants indicated that they primarily lived in an urban area at the time of the study ( $n= 227$ ), and about 20% indicated that they lived in a suburban area at the time of this study ( $n= 56$ ). While participants verbally confirmed identification as AI/AN during recruitment, they self-identified by their Tribal affiliation on the demographic sheet. In addition to Tribal identification, 26.5% of participants indicated that they were members of other racial/ethnic groups ( $n= 75$ ) including 11% identifying as Latino/a ( $n= 31$ ), 8.1% as White ( $n=$

23), 3.5% as American Indian/Native American/Indigenous, 1.4% as Black, ( $n= 4$ ), 0.4% as Asian ( $n= 1$ ), and 6 participants who indicated being a member of another racial/ethnic group did not specify which group.

Approximately 81% of the sample had a high school degree or higher educational level ( $n= 229$ ). In this sample, 3.2% of participants had some graduate school or higher education level ( $n= 9$ ), 12.4% had an undergraduate Bachelor's degree ( $n= 35$ ), 31.8% of participants had obtained some college education, technical school, or an Associate's degree ( $n= 90$ ), 37% of participants had obtained a high school degree or GED ( $n= 95$ ), 14.5% had some high school ( $n= 41$ ), 3.5% had middle school ( $n= 10$ ), 0.7% had elementary school or less education ( $n= 2$ ), and 1 participant did not answer. Thirty-six percent of participants listed their annual income as less than \$10,000 ( $n= 102$ ), 19.8% between \$10,000 and \$20,000 ( $n= 56$ ), 15.9% between \$20,000 and \$30,000 ( $n= 45$ ), 9.5% between \$30,000 and \$40,000 ( $n= 27$ ), 8.8% between \$40,000 and \$60,000 ( $n= 25$ ), 7.8% of participants listed their annual income as over \$60,000 ( $n= 22$ ), and 6 participants did not answer.

## **Recruitment**

The Institutional Review Board at the University of Wisconsin-Milwaukee approved this study for human subjects' participation. Participant recruitment took place in the Southeastern metropolitan area of a Midwest state. AI/AN-serving organizations in this metropolitan area were contacted by email or phone to be informed of the study. Several agencies responded with requests to review the study materials. Study materials (descriptive letter, informed consent, flyers, measures, IRB application, etc.) were provided for their review as requested. This resulted in multiple agencies offering their support for this project and their facilities for participant recruitment. These agencies also permitted the distribution of study flyers to be

posted at their sites for recruitment purposes. Recruitment procedures included face-to-face recruitment at multiple AI/AN-serving organizations and community events. These included a Pow Wow, a school-supply distribution event, an urban Tribal office, a Tribal picnic, an urban Indian health center, and an AI/AN-serving workforce agency. After the initiation of the study, a snowball sampling procedure developed and multiple participants heard about the study from friends or family members who had participated.

### **Data Collection**

The measures for this study were organized as a study packet with each measure printed on a separate sheet of paper and all measures stapled together. The measures were counterbalanced to control for order effects. In addition to the research measures, the study packet included an informed consent form (Appendix G), a demographic questionnaire (Appendix H), and a community resources sheet (Appendix I).

The data collection team consisted of the principal author (Latina), and three doctoral students in counseling psychology (2 Latinos, 1 White). All data collection team members completed the appropriate training for conducting research with human subjects as required by the University of Wisconsin-Milwaukee's Internal Review Board. The data collection team recruited participants, obtained consent, collected the data, and paid the participants. The principal student investigator provided additional training on appropriate recruitment and data collection methods to team members to ensure appropriate interaction with participants and collaboration with AI/AN-serving agencies in the community. The research team members also received a detailed instruction sheet with data collection procedures for this study.

A full written informed consent and an abbreviated verbal consent was provided to all participants before the research was conducted. The informed consent addressed the purpose of

the study, details related to confidentiality, and the risks and benefits of participating in this study. The participants were informed of their right to discontinue participation from the study at any time. Those individuals who decided to participate received the self-report measures to be completed at the time of consent. The individuals who participated in this study received compensation (U.S. \$10 Wal-Mart gift card) for their time and effort upon completion of all research measures.

The measures utilized for this project were self-administered. Each eligible participant individually read and completed the materials in the study packet. Any eligible participants requiring additional assistance completing the measures received such assistance. This assistance included having a research team member read the questions out loud or providing a magnifying glass for individuals with vision impairments or limited literacy. Assistance also included circling the participants' identified verbal answers on the measures. Attention was paid to follow appropriate administration procedures in order to not influence any participants' answers while providing needed accommodations.

## **Measures**

Eight measures were utilized in this dissertation study, including the demographic sheet. The demographic sheet collected descriptive data, information regarding participants' health status, and traditional health practices. The Historical Loss Scale and Historical Loss Associated Symptoms Scale (HLS & HLAS; Whitbeck, Adams, Hoyt, & Chen, 2004) were utilized to assess the presence and impact of historical loss on this sample. The Scale of Ethnic Experience (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006) was utilized to explore multiple psychosocial cultural variables. The Health-Promoting Lifestyle Profile II (HPLP-II; Walker, Sechrist, & Pender, 1995) was utilized to screen behaviors that could positively affect health status. Various

measures of substance use were included to screen for behaviors that could negatively affect health status. The Alcohol Use Disorders Identification Test-Consumption (AUDIT-C; Bush, Kivlahan, McDonell, Fihn & Bradley, 1998); the Fagerstrom Test for Nicotine Dependence (FTND; Heatherton, Kozlowski, Frecker & Fagerstrom, 1991), and the Fagerstrom Test for Nicotine Dependence for Smokeless Tobacco (FTND-ST; Ebbert, Patten, & Schroeder, 2006) were utilized to screen for alcohol consumption, commercial cigarette use and nicotine dependence, and smokeless commercial tobacco use respectively. These instruments are discussed in detail below.

### **Demographic questionnaire.**

The demographic sheet for this study included questions on a number of self-identification variables (See Appendix H). Descriptive information collected from this sample included age, gender identity, Tribal identification including enrollment or descendant status, other racial/ethnic identification, education level, languages, estimated income, and current residential location (urban, reservation, rural, etc.). Information collected included participants' boarding school histories by asking whether the individual or his/her relatives attended boarding schools. The demographic sheet also included a number of questions on participants' current health status to review the incidence of chronic health conditions. Moreover, the utilization of any traditional health practices and any traditional spiritual practices was assessed through various questions.

The demographic sheet included a list of major chronic illnesses including those identified to disproportionately affect and have the highest incidence among AI/ANs in the U.S. Illnesses listed included heart disease, cancer, diabetes, chronic liver disease, sexually transmitted diseases, stroke, and hypertension/high blood pressure. The participants were asked

if they have been diagnosed with any of these illnesses and these descriptive data are discussed in Chapter 4. The demographic sheet also screened for exposure to five AI/AN specific extreme stressors including armed robbery, attempted homicide, domestic violence, physical assault, and sexual assault. Finally, three open questions prompting participants to list any factors currently contributing to their health and their experiences with traditional health practices were included for future research as requested by the primary community partner agency, Spotted Eagle, Inc.

### **Historical loss and associated symptoms.**

The Historical Loss Scale (HLS) and the Historical Loss Associated Symptoms Scale (HLAS) developed by Whitbeck, Adams, Hoyt, and Chen (2004) were utilized to measure historical loss among participants in this sample (See Appendices G & H). The initial development of the HLS and HLAS took place through focus groups with Elders from various AI/AN reservations in the Midwest, as the authors felt it was necessary to seek “the people who possess the knowledge” (Whitbeck, Adams, Hoyt, & Chen, 2004, p. 122). The Elders assisted researchers in the development of these scales through identifying themes associated with historical loss and the feelings associated with these numerous losses. After Whitbeck, Adams, Hoyt and Chen created the initial scales, these were presented for review to the Elders and to Tribal advisory boards. Upon reviewing the initial scales, these community members had the opportunity to provide additional feedback. Whitbeck, Adams, Hoyt and Chen (2004) incorporated Elder feedback into the revision of the scales and utilized the revised scales with 143 AI/AN adults in a longitudinal study conducted in two U.S. Midwest region reservations and two Canadian reservations. The HLS had high internal reliability with a Cronbach’s alpha of .92; the HLAS also had high internal reliability with a Cronbach’s alpha of .89 (Whitbeck, Adams, Hoyt, & Chen, 2004).



Utilizing exploratory and confirmatory factor analysis, Whitbeck, Adams, Hoyt, and Chen (2004) found that the HLS has one factor: perceived loss, and that the HLAS has two factors: anxiety/depression and anger/avoidance. The HLAS factor analysis demonstrated that 5 questions pertained to the anxiety/depression factor and 7 questions pertained to the anger/avoidance factor. Furthermore, these researchers also confirmed that both scales are positively correlated, as the higher the perceived loss, the higher the symptoms of anger and depression.

The Historical Loss Scale (HLS; Whitbeck, Adams, Hoyt, & Chen, 2004) is designed to measure the frequency of particular thoughts associated with the losses resulting from the genocide faced by AI/AN people in the last centuries. The HLS contains 12 items that identify different types of losses associated with historical trauma. This scale's instructions request participants to "read each item and indicate how often you think about this". Sample items include "losing our traditional spiritual ways", "losing our culture", and "loss of our people through early death". Responses for each item are recorded on a 6-point Likert scale ranging from 1= *several times a day*, 2= *daily*, 3= *weekly*, 4= *monthly*, 5= *yearly or at special times*, to 6= *never*. The scale was reverse coded for analyses as 1= *never*, 2= *yearly or at special times*, 3= *monthly*, 4= *weekly*, 5= *daily*, and 6= *several times a day* to reflect a higher score indicating a higher frequency of historical loss thoughts. Adding the response values and calculating the mean yields the scale's total score.

The Historical Loss Associated Symptoms Scale (HLAS; Whitbeck, Adams, Hoyt, & Chen, 2004) is designed to measure the frequency in which various feelings and emotional responses are triggered by thoughts of historical trauma losses. The HLAS contains 12 items identifying psychological symptoms associated with historical loss. This scale's instructions ask

participants about “how do you feel when you think about the losses that you reported on the previous page”. Sample items include “anger”, “a loss of sleep”, and “feel like it is happening again”. Responses for each item are recorded on a 5-point Likert scale ranging from 1= never, 2= seldom, 3= sometimes, 4= often to 5= always. Adding the response values and calculating the mean yields the scale’s total score. A higher score indicates higher prevalence of emotional responses, specific to depression/anxiety or anger/avoidance that are associated with the perceived loss thoughts from the HLS.

The HLS and the HLAS (Whitbeck, Adams, Hoyt, & Chen, 2004) have been utilized in several studies with both urban and rural AI/ANs (e.g., Chavez-Korell, Rouse, & Davis, in progress; Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013; Torres Stone, Whitbeck, Chen, Johnson, & Olson, 2006; Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009). Both scales were recently used in a sample of urban AI/ANs and demonstrated high internal reliability with a Cronbach’s alpha of .96 for the HLS and .93 for the HLAS (Wiechelt, Gryczynski, Johnson, & Caldwell, 2012). In this study, the Cronbach’s alpha for the HLS was .95 and .92 for the HLAS.

#### **Psychosocial cultural variables.**

The Scale of Ethnic Experience (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006) was utilized to examine several psychosocial cultural variables that may serve as stressors or buffers to health outcomes. The SEE is a multidimensional measure of acculturation designed for use across ethnic groups to measure the cognitive aspects of acculturation and the subjective experience of ethnicity (Malcarne, Chavira, Fernandez, & Liu, 2006). Initial item development for this scale took place in a multicultural research team with a number of racial and ethnic minority members. These researchers compiled a number of constructs (e.g., ethnic identity,

ethnic pride, perceived discrimination, social affiliation preferences, attitudes towards being part of mainstream culture, and preferences for cultural practices) deemed to be related to the cognitive aspects of acculturation that appeared to be salient in the literature. Two focus groups of diverse college students were recruited to further investigate the factors associated with membership to an ethnic minority group. A 100-item questionnaire resulted from the initial focus groups and it was later reduced to 73 items based on the returning focus group participants' feedback of the compiled measure. The 73-item scale in development was administered to a diverse sample and factor analyses resulted in the final 32-item SEE scale (Malcarne, Chavira, Fernandez, & Liu, 2006).

Undergraduate students from four ethnic groups (Caucasians, African Americans, Mexican Americans and Filipino Americans) participated in the development of this scale. The reliability and validity of this measure was established for all of these ethnic groups. The sample size of  $N=1,727$  was utilized to analyze the validity of this scale. The Ethnic Identity subscale focuses on "an individual's attitude toward being a member of an ethnic group including items pertaining to ethnic pride and participation in cultural activities" and obtained high internal reliability with a Cronbach's alpha of .81 with African Americans, .89 with Caucasian Americans, .81 with Filipino Americans, and .90 with Mexican Americans in this student sample (Malcarne, Chavira, Fernandez, & Liu, 2006, p. 153). The Ethnic Identity subscale has a high total internal reliability with a Cronbach's alpha of .87. The Perceived Discrimination subscale focuses on "perceptions of how their ethnic group has been treated in the U.S." (p.153) and obtained high internal reliability with a Cronbach's alpha of .86 with African Americans, .81 with Caucasian Americans, .76 with Filipino Americans, and .85 with Mexican Americans in this student sample. The Perceived Discrimination subscale has a high total internal reliability

with a Cronbach's alpha of .91. The Mainstream Comfort subscale focuses on "perception that he or she is comfortable with American culture and represents a 'typical' American" (p. 153) and obtained high internal reliability with a Cronbach's alpha of .80 with African Americans, .85 with Caucasian Americans, .76 with Filipino Americans, and .84 with Mexican Americans in this student sample. The Mainstream Comfort subscale has a high total internal reliability with a Cronbach's alpha of .87. The Social Affiliation subscale focuses on "preference and comfort regarding interactions with members of their own ethnic groups versus other groups, both in friendships and romantic relationships" (p. 154) and obtained high internal reliability with a Cronbach's alpha of .81 with African Americans, .83 with Caucasian Americans, .84 with Filipino Americans, and .81 with Mexican Americans in this student sample. The Mainstream Comfort subscale has a high total internal reliability with a Cronbach's alpha of .83 (Malcarne, Chavira, Fernandez, & Liu, 2006). In this study, the Cronbach's alpha for the SEE total was .72, .74 for the PD subscale, .75 for the EI subscale, .65 for the MC subscale, and .78 for SA subscale.

The SEE's content validity was evaluated by having participants from various ethnicities take the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) in addition to the SEE. The content validity for the MEIM's Ethnic Identity subscale was .90 and .63 for the Other Group Orientation subscale. Malcarne, Chavira, Fernandez and Liu, (2006) also gave ethnic specific scales to the participants. The African American Acculturation Scale or AAAS-R (Klonoff & Landrine, 2000) was utilized with the African American participants in this sample and it produced a coefficient alpha of .88 for the total score. The Acculturation Rating Scale for Mexican Americans ARSMA (Cuellar et al., 1980) was utilized with the Mexican American participants in this sample resulting in a coefficient alpha of .74. The Suinn-Lew Asian Self

Identity Acculturation Scale SL-ASIA (Suinn et al., 1987) was utilized with the Filipino American participants in this sample resulting in a coefficient alpha of .81.

The full SEE scale including all 4 subscales (Malcarne, Chavira, Fernandez, & Liu, 2006) has not been utilized since its development. The Perceived Discrimination subscale was utilized with a sample of Black participants to study the relationship between perceived discrimination and systolic and diastolic pressure responses to phenylephrine (Thomas, Nelesen, Malcarne, Ziegler, & Dimsdale, 2006). The literature to date does not indicate any evidence of the use of this scale with AI/AN samples. However, since the SEE scale is not culture specific and was developed for use with various ethnic and racial groups, the use of this scale with AI/ANs seems appropriate.

The SEE contains 32 items that identify a number of cognitive aspects associated with acculturation, such as individual sense of ethnic identity, perceptions of acceptance and/or discrimination in U.S. society, comfort navigating mainstream U.S. society, and attitudes about between and within groups social affiliation (Malcarne, Chavira, Fernandez, & Liu, 2006). These dimensions are theorized to encompass acculturation from a cognitive level rather than from a behavioral performance level since the authors argued that many ethnic related behaviors could be confounded by opportunity. Acculturation and enculturation have been significantly influenced by the historical events survived by indigenous people in North America. Given the complexities associated with colonization and historical loss for AI/AN individuals, the SEE was not utilized to measure acculturation as theorized by Malcarne, Chavira, Fernandez, & Liu (2006). It was used to explore how different psychosocial variables associated with culture may influence the relationship between AI/AN stressors and health outcomes.

The SEE has four subscales: Ethnic Identity (12 items), Perceived Discrimination (9 items), Mainstream Comfort (6 items), and Social Affiliation (5 items). The participant is instructed to self-identify ethnicity and to respond to a number of statements associated with how she/he experiences the self-identified ethnicity. For this study, the instructions were modified, instructing participants to think about their specific AI/AN heritage or ethnic/indigenous group(s) when responding to this measure. Sample items respectively from each of the four subscales include “my ethnic background plays a very small role in how I live my life” (Ethnic Identity), “my ethnic group does not have the same opportunities as other ethnic groups” (Perceived Discrimination), “I feel like I belong to mainstream American culture (Mainstream Comfort)”, and “I feel most comfortable talking about personal things with people from my own ethnic group (Social Affiliation).” Responses for each item are recorded on a 5-point Likert scale ranging from 1= *strongly disagree* to 5= *strongly agree*. This measure does not render a total score. Instead each subscale is scored, with higher scores on a particular subscale indicating a greater endorsement of that construct. Reverse coding items are identified and can be scored by subtracting the item score from 6. In order to obtain the mean score for a subscale, the scores for this scale are added and the sum of these scores is divided by the total number of items in that subscale (Malcarne, Chavira, Fernandez, & Liu, 2006).

### **Health-promoting behaviors.**

The Health-Promoting Lifestyle Profile-II (HPLP-II; Walker, Sechrist, & Pender, 1995) was utilized to measure health behaviors among participants. The HPLP-II is a revised version of the Health-Promoting Lifestyle Profile (HPLP; Walker, Sechrist, & Pender, 1987) that was designed to measure a number of health behaviors theorized to encompass overall individual wellness. Item analysis, factor analysis, and reliability measures resulted in identifying the

original 48-item HPLP and its six subscales titled: Self-Actualization, Interpersonal Support, Exercise, Nutrition, Health Responsibility and Stress Management (Walker, Sechrist, & Pender, 1987). The authors revised the original measure to increase content validity and relevance to current research. In their 1995 revision, Walker, Sechrist, and Pender changed three of the scales' names. The Self-Actualization subscale name was changed to Spiritual Growth to avoid confusion with Maslow's (1954) theory. The Interpersonal Support subscale name was changed to Interpersonal Relations in order to differentiate this dimension from the frequently researched construct of social support. Finally, the Exercise subscale name was changed to Physical Activity to encompass a broader range of activities that can be beneficial to individual health (Walker, & Hill-Polerecky, 1996).

The revised HPLP-II contains 52 items that identify a number of behaviors in the areas of health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management. The HPLP-II's instructions prompt participants to "indicate the frequency with which you engage in each behavior" related to their "present way of life or personal habits" (Walker, Sechrist, & Pender, 1995). Sample items from each of the six dimension subscales respectively include "discuss my health concerns with health professionals" (Health Responsibility), "follow a planned exercise program" (Physical Activity), "choose a diet low in fat, saturated fat, and cholesterol" (Nutrition), "believe my life has a purpose" (Spiritual Growth), "discuss my problems and concerns with people close to me" (Interpersonal Relations), and "get enough sleep" (Stress Management). Responses for each item are recorded on a 4-point Likert scale ranging from 1 = *never*, 2 = *sometimes*, 3 = *often*, to 4 = *routinely*. The total score is obtained by calculating the mean of all 52 responses. A high total score indicates a high health-promoting lifestyle. The subscale scores are obtained by calculating the mean of all responses

for that particular subscale. A high score on a subscale indicates engaging in high health-promoting behaviors associated with that dimension of health (Walker, Sechrist, & Pender, 1995). For this study, the total score of the means of all 6 subscales was utilized to represent an overall score of health-promoting behaviors.

The HPLP-II's main author, Walker, explained the focus of each of the subscales in an excerpt from an unpublished manuscript (Walker & Hill-Polerecky, 1996). According to Walker and Hill-Polerecky (1996) the Health Responsibility subscale focuses on "accountability for one's own well-being". The Physical Activity subscale focuses on "regular participation in light, moderate, and/or vigorous activity". The Nutrition subscale focuses on "knowledgeable selection and consumption of foods essential for sustenance, health and well-being". The Spiritual Growth subscale "focuses on the development of inner resources and is achieved through transcending, connecting, and developing". The Interpersonal Relations subscale focuses on the utilization of "communication to achieve a sense of intimacy and closeness within meaningful, rather than more casual, relationships with others". Finally, the Stress Management subscale focuses on the "identification of psychological and physical resources to effectively control or reduce tension" (Walker & Hill-Polerecky, 1996). Overall, these six subscales address the multiple dimensions that, in balance, could positively contribute to physical, emotional and spiritual health.

The HPLP-II has high internal reliability with an overall Cronbach's alpha of .943 and Cronbach's alpha for each of the six subscales ranging from .793 to .872 (Walker & Hill-Polerecky, 1996) based on an ethnically unspecified sample of adults. Its construct validity has been confirmed by its .678 correlation with the Personal Lifestyle Questionnaire (PLQ; Brown, Muhlenkamp, Fox, & Osborn, 1983). The literature to date does not indicate any evidence of the



use of this scale with AI/AN samples. However, the HPLP-II has been utilized with diverse populations such as Latinos and African Americans (Chester, Himburg, & Weatherspoon, 2006; Chilton, Hu, & Wallace, 2006; Hulme et al., 2003; Jefferson, Melkus, & Spollet, 2000; Johnson, 2005). It has demonstrated high internal reliability with Latinos with a Cronbach's alpha of .94 for the total scale and a .79 to .87 range for the subscales (Hulme et al., 2003). In this study, the Cronbach's alpha for the HPLP-II total was .95.

### **Alcohol use.**

The Alcohol Use Disorders Identification Test-Consumption (AUDIT-C; Bush, Kivlahan, McDonell, Fihn & Bradley, 1998) questionnaire was utilized to screen the participants' current alcohol consumption. The AUDIT-C is an abbreviated version of the original Alcohol Use Disorders Identification Test (AUDIT) developed by the World Health Organization in 1982 (Babor, De La Fuente, & Grant, 1989). The original AUDIT instrument measures the domains of alcohol consumption, drinking behavior/dependence, adverse psychological reactions and alcohol related problems. In order to review the alcohol assessment qualities of the AUDIT, reference standards were utilized including "hazardous alcohol consumption... defined for this analysis as an average daily alcohol intake exceeding 60g per day for men and 40g per day for women" and "recurrent intoxication was defined as consumption of 60g in a single session daily or almost daily, or 130g per session at least weekly" (Saunders, Aasland, Babor, De La Fuente, & Grant, 1993, p. 794). A positive alcohol screen was defined as a "hazardous daily level of consumption; recurrent intoxication; abnormal drinking behavior, at least one alcohol-related problem in the last year; an alcohol related disease; or perceived drinking problem" (Saunders, Aasland, Babor, De La Fuente, & Grant, 1993, p. 794). The AUDIT has been utilized with AI/ANs in the Northern Plains and has demonstrated validity by comparison with measures such

as the CAGE-AID (Brown, 1992) demonstrating a positive correlation with this instrument of .76. (Leonardson et al., 2005). It also demonstrated high internal reliability in this AI/AN sample with a Cronbach's alpha of .97 (Leonardson et al., 2005).

While the original AUDIT contains ten items, the AUDIT-C contains the three items from the AUDIT that aim to assess current alcohol consumption, including the frequency and quantity of alcohol use. The AUDIT-C is primarily used to identify heavy drinking patterns that are indicative of alcohol abuse or dependence. The three items on this instrument are: "How often do you have a drink containing alcohol?", "How many standard drinks containing alcohol do you have on a typical day?", and "How often do you have six or more drinks on one occasion?". Responses for each item have five different choices with scoring values as a= 0 points, b= 1 point, c= 2 points, d= 3 points, and e= 4 points. The points are added to obtain the total score for this measure. The total score ranges from 0 to 12. A score of 4 or higher in men and 3 or higher in women indicates dangerous alcohol drinking habits and/or alcohol disorders (Bush, Kivlahan, McDonell, Fihn & Bradley, 1998). For the purposes of this study a cut-off score of 4 was utilized to signify alcohol abuse.

The AUDIT-C measure has been used in primary care settings and Veteran medical centers. In order to evaluate the usefulness of an abbreviated version of the AUDIT, Bush, Kivlahan, McDonell, Fihn, and Bradley (1998) selected male participants from a larger study conducted in three Veteran Affairs medical centers in the U.S. Utilizing the areas under the Receiver Operating Characteristic Curve known as the AUROC, researchers were able to identify that the AUDIT-C provided a better measure of heavy drinking than the full AUDIT ( $p=.03$ ) and an equal ability to detect current alcohol abuse or dependence as the full AUDIT ( $p=.83$ ) (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998). The reported AUROC for heavy

drinking was .891. An AUROC of 1.0 signals perfect sensitivity and specificity of a measure at predicting the outcome better than chance (Dawson, Grant, Stinson, & Zhou, 2005). Based on findings, the AUDIT-C instrument was able to accurately identify 98% of participants with heavy alcohol use and 90% of participants with abuse or dependence utilizing a cut-off score of 3 out of 12 total points (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998).

The AUDIT-C has been used across ethnic groups in the U.S. population and has proven to be a good measure of heavy drinking (Bush, Kivlahan, McDonell, Fihn & Bradley, 1998). When examining this measure's properties across U.S. ethnic groups, the AUDIT-C has been shown to particularly work well in capturing alcohol dependence and alcohol use disorders in AI/ANs and White Americans with an AUROC of .974 in risk drinking and .954 in alcohol dependence for AI/ANs (Dawson, Grant, Stinson & Zhou, 2005). The AUDIT-C is an appropriate measure to study alcohol abuse in AI/ANs since it can identify general unhealthy drinking patterns that may lead to illness, rather than focusing only on alcohol addiction. In this study, the Cronbach's alpha for the AUDIT-C was .81.

#### **Commercial cigarette use.**

The Fagerstrom Test for Nicotine Dependence (FTND; Heatherton, Kozlowski, Frecker & Fagerstrom, 1991) was utilized to screen for participants' commercial cigarette use. The FTND is an abbreviated version of the original Fagerstrom Tolerance Questionnaire (FTQ; Fagerstrom, 1978) developed to assess nicotine dependence. The FTQ was revised due to problems with internal consistency and evidence of only one of the factors being responsible for most of the variance (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). During the revision of the FTQ, Heatherton, Kozlowski, Frecker, and Fagerstrom (1991) utilized questionnaires to further understand the constructs associated with smoking, along with biological measures of

nicotine dependence, including tests for carbon monoxide in breath, salivary cotinine and salivary nicotine. Factorial analysis of the revised FTQ, which was renamed FTND, indicated higher internal reliability of .61 and a single factor item loading (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). Fagerstrom (2012) recently argued the need for a change in the name of this measurement to the Fagerstrom Test for Cigarette Dependence as it only assesses nicotine dependence for cigarette users. However, this measure is still widely known as the FTND, so for the purposes of this dissertation, it will be referred to as the FTND.

Even though the FTND has fewer items than the FTQ, the FTND has higher internal reliability with an overall Cronbach's alpha of .61 when compared to the FTQ's .51 reliability, but .61 is considered low internal reliability for a measure. A lower internal reliability is reasonable given the scope of factors this scale attempts to measure with a limited number of items (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). In spite of the lower reliability of this measurement tool, it is a widely known and established standard method of measuring nicotine dependence that has been used in hundreds of studies in the past two decades and it is considered useful in identifying smoking behaviors that pose a health risk (Ames et al., 2008; Gifford et al., 2011; Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991; Ward et al., 2002). The FTND was used in a study (Gifford et al., 2011) with adults from different ethnicities that were addicted to nicotine. The measure had a total Cronbach's alpha of .42 for this diverse sample (Gifford et al., 2011). This measure has also been used in other studies with diverse samples that have included AI/ANs, as well as African Americans and Latinos but no reliability estimates were reported with these samples (Ames et al., 2008; Ward et al., 2002). In this study, the Cronbach's alpha for the FTND was .72.

The FTND contains 6 items that assess the level of nicotine dependence for commercial cigarette users. Sample items include “How soon after you wake up do you smoke your first cigarette?”, “How many cigarettes per day do you smoke?”, and “Do you smoke even if you are so ill that you are in bed most of the day?”. Response choices for each of the 6 questions range from 2 to 4 options and include frequency, duration, and bimodal yes/no answers. The scores for each question range from 0 up to 3 depending on the number of response options. The items are added up to obtain the total score for this measure, and range from 0 to 10. A score of 7 or higher indicates a high level of nicotine dependence. A score of 5 or 6 indicates a moderate level of nicotine dependence. A score of 4 or lower indicates a low level of nicotine dependence (Fagerstrom, Heatherton, & Kozlowski, 1990). For the purposes of this study a cut off score of 5 was originally going to be utilized to signify commercial cigarette abuse. However, an unexpected finding was that, of the total number of commercial cigarette smokers in the sample ( $n= 110$ ), only 25% of smokers had a score of 5 or higher ( $n= 27$ ). This number was insufficient to run the proposed analyses. Therefore, the criteria for positive commercial tobacco abuse was changed to responding yes to the question: “Have you smoked any commercial cigarettes for non-ceremonial purposes in the past year?”. This question was included in the FTND measure as a pre-screener for answering the measure. The updated criteria are consistent with what many AI/AN cultures consider abuse of the sacred tobacco plant.

#### **Commercial smokeless tobacco use.**

The Fagerstrom Test for Nicotine Dependence for Smokeless Tobacco (FTND-ST; Ebbert, Patten, & Schroeder, 2006) was utilized to screen for commercial smokeless tobacco use. However, fewer than 2% of the participants in this study ( $n= 5$ ) utilized smokeless tobacco in the

way described by this measure (chewing tobacco). Therefore, this measure was not used for statistical analyses.

### **Overview of Analyses**

Quantitative methods were utilized to analyze the data using SPSS (version 22) software and PROCESS regression based approach (Hayes, 2013) for SPSS. Descriptive statistics, including means, standard deviations, correlations, and reliability estimates of the scores, were generated for scores on the major variables of the study.

For Research Question 1, the prevalence of historical loss thoughts was first reviewed by evaluating the frequency of responses in the HLS measure. The prevalence of historical loss associated symptoms was reviewed by evaluating the frequency of responses in the HLAS measure. Independent samples *t* tests were computed to detect significant differences in the frequency of historical loss thoughts among age cohorts. A simple linear regression model was utilized to determine if historical loss thoughts (predictor) significantly predicted historical loss associated symptoms (outcome) for this sample. A hierarchical multiple regression was conducted to determine if historical loss thoughts accounted for a significant amount of the variance in historical loss associated symptoms after controlling for other influentially known psychosocial factors (age, gender, income, education) and AI/N specific extreme stressors (PTSD diagnosis, boarding school attendance, family member boarding school attendance, armed robbery victim/witness, attempted homicide victim/witness, domestic violence victim/witness, physical assault victim/witness, and sexual assault victim/witness).

For Research Question 2, Whitbeck, Adams, Hoyt, and Chen's (2004) proximal theory was tested by conducting a simple linear regression model to determine if the proximal stressor of perceived discrimination (predictor) significantly predicted historical loss associated

symptoms (outcome) and if this relationship was strengthened by historical loss thoughts (moderator). A hierarchical multiple regression was conducted to determine if perceived discrimination accounted for a significant amount of the variance in historical loss associated symptoms after controlling for the psychosocial factors and extreme stressors listed above. Next, moderated multiple regression analyses were conducted to test if historical loss thoughts strengthened the relationship between perceived discrimination and historical loss associated symptoms.

For Research Question 3, Walter and Simoni's (2002) Indigenist Stress-Coping Model was tested as a distal model by conducting regression analyses for historical loss thoughts (predictor) and mental health, physical health, and substance abuse (outcome) variables. Moderated multiple regression analyses utilizing PROCESS (Hayes, 2013) were conducted to test if each of the psychosocial cultural variables (ethnic identity, mainstream comfort, social affiliation) influenced the relationship between historical loss thoughts and historical loss associated symptoms while holding constant the other two psychosocial cultural variables. A simple linear regression was conducted to determine if the distal stressor of historical loss thoughts predicted the health outcome of engaging in health-promoting behaviors. Moderation analysis of psychosocial cultural variables for this model was not conducted given non-significant linear model results. A logistic regression analysis was conducted to predict alcohol abuse using historical loss thoughts as predictor. No further analyses for moderation were conducted given non-linear relationship between these variables. A logistic regression analysis was conducted to predict commercial cigarette use using historical loss thoughts as predictor. Next, moderated logistic regression analyses were conducted using PROCESS (Hayes, 2013) to test if psychosocial cultural variables of ethnic identity (EI), mainstream comfort (MC), and

social affiliation (SA) strengthened the relationship between historical loss thoughts and commercial cigarette use. Exploratory analyses were conducted for Research Question 4 to determine correlations and other linear models between demographic variables and other study variables.



## Chapter 4

### Results

#### Preliminary Analyses

##### **Data management.**

The total sample size consisted of 285 participants, and was reduced to 283 for analyses. One case was removed as an extreme outlier after Mahalanobis distance test was conducted and examination of case demonstrated that participant had answered with all extreme scores for all measures. A second case was removed due to participant not identifying as AI/AN during administration. For the remaining participants, case processing summary on SPSS was utilized to identify percentages of missing data and number of valid cases. For the HLS mean, HLAS mean, PD mean, SA mean, AUDIT-C total and FTND total scores, 282 valid cases were identified and 0.4% of data were missing. For the EI mean, MC mean, and HPLP mean, 283 valid cases were identified with 0% of data missing. At the item level, HLS had 1.1% or less of missing data, HLAS had 1.4% or less, PD had 2.5% or less, EI had 1.8% or less, SA had 2.1% or less, MC had 2.8% or less, HPLP had 1.8% or less, AUDIT-C had 0.4% or less, and FTND had 0.7% or less missing data. Missing data were not imputed for these variables and cases with missing data were automatically reduced by SPSS during analyses.

Missing data percentages on demographic data were also calculated for the following variables: age (0.4%), gender (0%), household income (2.1%), education level (0.4%), posttraumatic stress diagnosis (0.7%), armed robbery witness/victim (0.4%), attempted homicide witness/victim (0.4%), domestic violence witness/victim (0%), physical assault witness/victim (0.7%), sexual assault witness/victim (0.4%), boarding school attendance (1.4%), and family member boarding school attendance (2.5%). Missing data were not imputed for these

demographic variables and cases with missing demographic data were automatically reduced by SPSS during analyses when controlling for these variables in the main analyses.

The data was examined for normality. Scores on the Historical Loss Scale and Historical Loss Associated Symptoms Scale (HLS & HLAS; Whitbeck, Adams, Hoyt, & Chen, 2004) were positively skewed and leptokurtic. Scores on the Scale of Ethnic Experience's (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006) subscales of Ethnic Identity (EI), Social Affiliation (SA), Mainstream Comfort (MC), and Perceived Discrimination (PD) were approximately normally distributed. Scores on the Health-Promoting Lifestyle Profile II (HPLP-II; Walker, Sechrist, & Pender, 1995) were approximately normally distributed. Scores on the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C; Bush, Kivlahan, McDonell, Fihn & Bradley, 1998), and the Fagerstrom Test for Nicotine Dependence (FTND; Heatherton, Kozlowski, Frecker & Fagerstrom, 1991) were positively skewed and leptokurtic.

Estimates of internal consistency were examined for each scale's total. The alpha coefficients were as follow: .95 for HLS total, .92 for HLAS total, .95 for HPLP-II total, .81 for AUDIT-C total, .72 for FTND total. Internal consistency was also examined for the SEE's total and its subscales: .72 for SEE total, .74 for PD subscale, .75 for EI subscale, .65 for MC subscale, .78 for SA subscale. These initial estimates of reliability indicate that all measures, excluding the MC subscale of the SEE, had acceptable levels of internal consistency.

### **Descriptive Statistics.**

Descriptive statistics for all measures and subscales are reported in Table 2. Statistically significant but weak relationships existed between multiple variables. The most significant correlations were between historical loss associated symptoms and social affiliation (.41), historical loss thoughts and historical loss associated symptoms (.38), and ethnic identity and

perceived discrimination (.38). The prevalence of physical and mental chronic illnesses in this sample is reported in Table 3. The chronic illnesses with the highest prevalence were high blood pressure (35.7%) and diabetes (26.1%). The mental illness diagnoses with the highest prevalence were depression (38.9%) and anxiety (35.7%). The highest endorsed traumatic experience witnessed or survived (Table 4) by participants was domestic violence (50.9%). A large portion of the sample had witnessed or survived a traumatic experience, with 14% reporting a previous diagnosis of post-traumatic stress disorder. Drug abuse was the least endorsed mental illness diagnosis in this sample (9.2%). Alcohol intake, commercial cigarette use, and level of nicotine dependence are reported on Table 5. Approximately 75% of cigarette smokers (n= 110) showed low levels of nicotine dependence.

**Table 2.** Correlations, Means, Standard Deviations, and Reliability Estimates for all Measures (N=283).

Measure	1	2	3	4	5	6	7	8	9
<b>Total Scores</b>									
1. Historical Loss Thoughts	1	.377**	.036	.251**	.260**	-.155**	.186**	.001	.135*
2. Historical Loss Associated Symptoms	.377**	1	-.259**	.221**	.099	-.277**	.408**	.066	.137*
3. Health-Promoting Behaviors	.036	-.259**	1	0.59	.175**	.216**	-.165**	-.123*	-.221**
4. Perceived Discrimination	.251**	.221**	.059	1	.379**	-.333**	.110	.004	-.004
5. Ethnic Identity	.260**	.099	.175**	.379**	1	-.142*	.036	.064	-.004
6. Mainstream Comfort	-.155**	-.277**	.216**	-.333**	-.142*	1	-.231**	.052	-.132*
7. Social Affiliation	.186**	.408**	-.165**	.110	.036	-.231**	1	.058	.069
8. Audit-C	.001	.066	-.123*	.004	.064	.052	.058	1	.151*
9. FTND	.135*	.137*	-.221**	-.004	.004	-.132*	.069	.151*	1
<i>M</i>	3.01	2.28	2.51	3.60	3.76	3.35	3.20	2.90	.94
<i>SD</i>	1.22	.85	.46	.62	.57	.66	.83	2.77	1.82
<i>Alpha</i>	.95	.92	.95	.74	.75	.65	.78	.81	.72

\*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

**Note.** Audit-C= level of alcohol consumption, FTND= level of nicotine dependence.

**Table 3.** Frequency and Percentage of Chronic Physical and Mental Illness Diagnoses

Physical Illness Diagnosis	Yes	%	No	%	Mental Illness Diagnosis	Yes	%	No	%
High Blood Pressure	101	35.7	180	63.6	Depression	110	38.9	173	61.1
Diabetes	74	26.1	208	73.5	Anxiety	101	35.7	182	64.3
Heart Disease	26	9.2	254	89.8	Panic Attacks	67	23.7	216	76.3
Cancer	13	4.6	266	94.0	Emotional Problems	54	19.1	228	80.6
Lung Disease	12	4.2	270	95.4	Alcohol Abuse	48	17.0	234	82.7
Stroke	10	3.5	271	95.8	Post-traumatic Stress	40	14.1	241	85.2
Liver Disease	4	1.4	279	98.6	Bipolar	29	10.2	252	89.0
HIV/AIDS	0	0	283	100.0	Drug Abuse	26	9.2	255	90.1

**Table 4.** Frequency and Percentage of Traumatic Event Endorsement

Type of Traumatic Event	Yes	%	No	%
Domestic Violence	144	50.9	139	49.1
Physical Assault	125	44.2	156	55.1
Sexual Assault	73	25.8	209	73.9
Armed Robbery	45	15.9	237	83.7
Attempted Homicide	33	11.7	249	88.0

**Table 5.** Frequency and Percentage of Substance Use Endorsement

Measure	Frequency	Percent
Current Alcohol Abuse <i>Not Detected</i>	177	62.5
Current Alcohol Abuse <i>Detected</i>	106	37.5
Commercial Cigarette <i>No Use Past Year</i>	172	60.8
Commercial Cigarette <i>Use Past Year</i>	110	38.9
<i>Low Level</i> of Nicotine Dependence in Commercial Cigarette Users	83	75.4
<i>Moderate or Higher Level</i> of Nicotine Dependence in Commercial Cigarette Users	27	24.6

Approximately, 51% or over half of participants had boarding school experience. In this sample, 3.2% of participants indicated that they had attended a governmental boarding school ( $n=9$ ), 95.4% of the sample had not attended a boarding school in their lifetime ( $n=270$ ), and 4 participants did not respond. Forty-eight percent of participants indicated that they had family

members who had attended a governmental boarding school ( $n= 136$ ), 49.5% responded that they did not have family members who had attended a boarding school ( $n= 140$ ), and 7 participants did not respond. Engagement in AI/AN religious or spiritual practices was endorsed by 68.9% of the participants ( $n=195$ ); this engagement was denied by 30.7% of participants ( $n= 87$ ), and 1 participant did not answer. Forty-two percent of participants reported having sought guidance or ceremony from a spiritual or traditional healer or medicine person for physical health reasons ( $n= 119$ ), 57.6% denied having sought it ( $n=163$ ) and 1 participant did not answer. Moreover, 41.3% of participants sought guidance or ceremony from a spiritual or traditional healer or medicine person for mental health or emotional reasons ( $n=117$ ), 58% denied having sought it ( $n=164$ ) and 2 participants did not respond.

In this urban AI/AN adult sample, 39.2% ( $n= 111$ ) of participants reported being aware of their specific indigenous diet and 58.3% ( $n= 165$ ) responded that they are not aware of their specific indigenous diet (6 participants did not answer). The frequency in which participants reported eating an indigenous diet is: never 40.6% ( $n= 115$ ), sometimes 48.1% ( $n= 136$ ), often 6.4% ( $n= 18$ ), and routinely 2.5% ( $n= 7$ ).

## **Analyses and Results for each Hypothesis**

### **The prevalence of historical loss and historical loss associated symptoms.**

Hypothesis 1 predicted that there will be a significant prevalence of the distal stressor of historical loss thoughts (HLS), and an impact from this distal stressor on historical loss associated symptoms (HLAS) for this sample of urban AI/ANs. Multiple analyses were conducted to test this hypothesis. Frequency analysis was conducted for the entire sample (see Table 6) to evaluate individual frequency response prevalence of historical loss thoughts. The combined percentages of participants endorsing a frequency of several times a day, daily, or

weekly, is presented next. Close to half of participants had frequent thoughts about the *loss of respect by our children and grandchildren for elders* (45.6%), the *loss of our people through early death* (45.5%), the *losses from the effects of alcoholism on our people* (44.5%), and the *loss of respect by our children for traditional ways* (44.5%). Over one third had frequent thoughts about *losing our culture* (38.8%), and *losing traditional spiritual ways* (34.6%). Less than one third had frequent thoughts about the *loss of language* (32.2%), the *loss of trust in Whites from broken treaties* (31.1%), and the *loss of self-respect from poor treatment by government officials* (30.8%). A quarter had frequent thoughts about the *loss of land* (24.7%). About one fifth of participants had frequent thoughts about *losing family ties because of boarding schools* (21.3%), and the *loss of families from the reservation to government relocation* (19.8%).

A series of independent samples *t* tests were computed to determine whether age influenced the frequency of historical loss thoughts in this sample. Participants were grouped by generation or age cohort (cohorts: 18-35, 36-50, 51-69, 70-85) based on standard U.S. generational groups (Millennials, Generation X, Baby Boomers, and Great/Mature Generation). The findings revealed that no statistically significant differences existed among the youngest three generations in this sample. Significant differences were found between the oldest cohort (70-85) and each of the other cohorts. There was a significant difference between the 18 to 35 ( $n=100$ ,  $M= 3.223$ ,  $SD= 1.172$ ) (see Table 7) and the 70 to 85 ( $n= 21$ ,  $M= 1.989$ ,  $SD= .947$ ) (see table 10) age cohorts; ( $t(119) = 4.5$ ,  $p < .000$ ). There was a significant difference between the 36 to 50 ( $n= 85$ ,  $M= 3.074$ ,  $SD= 1.189$ ) (see Table 8) and the 70 to 85 age cohorts; ( $t(104) = 3.9$ ,  $p < .000$ ). There was also a significant difference between the 51 to 69 ( $n= 75$ ,  $M= 2.946$ ,  $SD= 1.251$ ) (see Table 9) and the 70 to 85 age cohorts; ( $t(94) = 3.2$ ,  $p = .002$ ). Thus, being a member of the oldest generation seemed to have an effect on the frequency of historical loss thoughts.

Specifically, the results suggest that members of the oldest generation reported experiencing historical loss thoughts less frequently.

Frequency analysis was conducted for the entire sample (see Table 11) to evaluate response prevalence of historical loss associated symptoms in response to thinking about the historical losses stated above. The combined percentages of participants endorsing a frequency of always, often, or sometimes experiencing historical loss associated symptoms when thinking of historical losses, is presented next. Nearly two thirds of participants reported frequently experiencing *sadness or depression* (65%) and *anger* (62.2%) in response to thinking about historical losses. Close to half reported frequently experiencing *anxiety or nervousness* (46.6%). About two fifths reported frequently *feeling like it is happening again* (41%), *shame* (39.6%), *isolation or distance from other people* (38.8%), *fear or distrust of intentions of White people* (38.5%), and experiencing *loss of concentration* (38.4%). Over one third reported frequently feeling *uncomfortable around White people* (36.7%). Approximately one third reported frequently experiencing *loss of sleep* (33.5%), and *feeling like avoiding places or people that remind you of these losses* (32.8%). Over a quarter of participants reported frequently experiencing *rage* (28.2%) in response to thinking about historical losses.

**Table 6.** Percentage Frequency of Perceived Historical Losses for Total Sample (N= 283)

	<b>Several times a day</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>	<b>Yearly or special times</b>	<b>Never</b>
<i>Loss of our land</i>	4.9	6.7	13.1	17.0	42.8	14.5
<i>Loss of our language</i>	6.4	12.7	13.1	18.0	36.7	12.4
<i>Losing our traditional spiritual ways</i>	6.4	13.4	14.8	19.8	32.9	11.3
<i>Loss of our family ties because of boarding schools</i>	7.1	6.4	7.8	14.5	26.9	36.7
<i>Loss of families from the reservation to government relocation</i>	4.9	7.1	7.8	14.1	35.3	30.0
<i>Loss of self-respect from poor treatment by government officials</i>	6.4	12.4	12.0	17.0	33.6	18.0
<i>Loss of trust in Whites from broken treaties</i>	7.4	13.1	10.6	15.2	36.7	15.9
<i>Losing our culture</i>	8.8	15.9	14.1	22.3	27.6	10.2
<i>Losses from the effects of alcoholism on our people</i>	12.0	17.3	15.2	21.9	24.0	8.5
<i>Loss of respect by our children and grandchildren for elders</i>	11.3	20.5	13.8	18.0	21.9	13.1
<i>Loss of our people through early death</i>	12.0	18.0	15.5	15.2	24.7	13.4
<i>Loss of respect by our children for traditional ways</i>	11.3	18.4	14.8	17.7	26.9	10.2



**Table 7.** Percentage Frequency of Perceived Historical Losses for Age Cohort 18 to 35 (n=100)

	<i>Several times a day</i>	<i>Daily</i>	<i>Weekly</i>	<i>Monthly</i>	<i>Yearly or special times</i>	<i>Never</i>
<i>Loss of our land</i>	4.0	8.0	12.0	25.0	40.0	11.0
<i>Loss of our language</i>	6.0	15.0	13.0	24.0	34.0	7.0
<i>Losing our traditional spiritual ways</i>	7.0	21.0	14.0	24.0	28.0	6.0
<i>Loss of our family ties because of boarding schools</i>	6.0	9.0	8.0	16.0	32.0	29.0
<i>Loss of families from the reservation to government relocation</i>	6.0	10.0	7.0	21.0	29.0	26.0
<i>Loss of self-respect from poor treatment by government officials</i>	7.0	15.0	14.0	22.0	25.0	16.0
<i>Loss of trust in Whites from broken treaties</i>	7.0	15.0	12.0	20.0	33.0	11.0
<i>Losing our culture</i>	8.0	24.0	14.0	26.0	23.0	5.0
<i>Losses from the effects of alcoholism on our people</i>	13.0	24.0	16.0	26.0	16.0	5.0
<i>Loss of respect by our children and grandchildren for elders</i>	9.0	29.0	14.0	19.0	20.0	9.0
<i>Loss of our people through early death</i>	12.0	23.0	16.0	17.0	22.0	10.0
<i>Loss of respect by our children for traditional ways</i>	10.0	25.0	14.0	21.0	24.0	6.0

**Table 8.** Percentage Frequency of Perceived Historical Losses for Age Cohort 36 to 50 (n= 85)

	<i>Several times a day</i>	<i>Daily</i>	<i>Weekly</i>	<i>Monthly</i>	<i>Yearly or special times</i>	<i>Never</i>
<i>Loss of our land</i>	4.7	7.1	18.8	12.9	42.4	12.9
<i>Loss of our language</i>	5.9	11.8	20.0	12.9	37.6	11.8
<i>Losing our traditional spiritual ways</i>	5.9	12.9	15.3	18.8	32.9	11.8
<i>Loss of our family ties because of boarding schools</i>	8.2	4.7	8.2	14.1	29.4	35.3
<i>Loss of families from the reservation to government relocation</i>	4.7	4.7	11.8	15.3	37.6	25.9
<i>Loss of self-respect from poor treatment by government officials</i>	4.7	12.9	15.3	17.6	40.0	9.4
<i>Loss of trust in Whites from broken treaties</i>	7.1	14.1	14.1	17.6	36.5	10.6
<i>Losing our culture</i>	9.4	15.3	14.1	28.2	22.4	10.6
<i>Losses from the effects of alcoholism on our people</i>	12.9	14.1	16.5	21.2	29.4	4.7
<i>Loss of respect by our children and grandchildren for elders</i>	16.5	16.5	14.1	17.6	22.4	10.6
<i>Loss of our people through early death</i>	12.9	11.8	22.4	14.1	24.7	12.9
<i>Loss of respect by our children for traditional ways</i>	15.3	17.6	17.6	14.1	25.9	9.4

**Table 9.** Percentage Frequency of Perceived Historical Losses for Age Cohort 51 to 69 (n= 75)

	<i>Several times a day</i>	<i>Daily</i>	<i>Weekly</i>	<i>Monthly</i>	<i>Yearly or special times</i>	<i>Never</i>
<i>Loss of our land</i>	8.0	6.7	10.7	16.0	44.0	14.7
<i>Loss of our language</i>	9.3	13.3	9.3	17.3	37.3	13.3
<i>Losing our traditional spiritual ways</i>	8.0	6.7	18.7	18.7	33.3	14.7
<i>Loss of our family ties because of boarding schools</i>	9.3	5.3	9.3	14.7	17.3	44.0
<i>Loss of families from the reservation to government relocation</i>	5.3	5.3	6.7	8.0	38.7	36.0
<i>Loss of self-respect from poor treatment by government officials</i>	8.0	10.7	9.3	12.0	38.7	21.3
<i>Loss of trust in Whites from broken treaties</i>	9.3	12.0	8.0	10.7	42.7	17.3
<i>Losing our culture</i>	10.7	10.7	17.3	16.0	32.0	12.0
<i>Losses from the effects of alcoholism on our people</i>	13.3	14.7	17.3	21.3	18.7	13.3
<i>Loss of respect by our children and grandchildren for elders</i>	12.0	16.0	17.3	17.3	17.3	20.0
<i>Loss of our people through early death</i>	13.3	21.3	10.7	16.0	22.7	16.0
<i>Loss of respect by our children for traditional ways</i>	12.0	13.3	16.0	20.0	24.0	14.7

**Table 10.** Percentage Frequency of Perceived Historical Losses Age Cohort 70 to 85 (n= 22)

	<i>Several times a day</i>	<i>Daily</i>	<i>Weekly</i>	<i>Monthly</i>	<i>Yearly or special times</i>	<i>Never</i>
<i>Loss of our land</i>	0.0	0.0	4.5	0.0	50.0	36.4
<i>Loss of our language</i>	0.0	4.5	0.0	13.6	45.5	31.8
<i>Losing our traditional spiritual ways</i>	0.0	0.0	4.5	9.1	54.5	22.7
<i>Loss of our family ties because of boarding schools</i>	0.0	4.5	0.0	9.1	27.3	50.0
<i>Loss of families from the reservation to government relocation</i>	0.0	4.5	0.0	0.0	45.5	45.5
<i>Loss of self-respect from poor treatment by government officials</i>	4.5	4.5	0.0	9.1	31.8	45.5
<i>Loss of trust in Whites from broken treaties</i>	4.5	4.5	0.0	0.0	36.4	50.0
<i>Losing our culture</i>	4.5	0.0	4.5	4.5	50.0	27.3
<i>Losses from the effects of alcoholism on our people</i>	0.0	9.1	0.0	9.1	54.5	22.7
<i>Loss of respect by our children and grandchildren for elders</i>	0.0	9.1	0.0	18.2	45.5	18.2
<i>Loss of our people through early death</i>	4.5	9.1	4.5	4.5	45.5	22.7
<i>Loss of respect by our children for traditional ways</i>	0.0	9.1	4.5	4.5	54.5	18.2

**Table 11.** Percentage Frequency of Emotional Responses to Historical Losses for Total Sample ( $N=283$ )

	<b>Always</b>	<b>Often</b>	<b>Sometimes</b>	<b>Seldom</b>	<b>Never</b>
Sadness or depression	6.7	13.8	44.5	19.4	15.2
Anger	7.4	15.9	38.9	23.7	13.8
Anxiety or nervousness	6.7	12.0	27.9	26.1	26.5
Uncomfortable around White people when you think of these losses	4.2	7.8	24.7	22.3	39.9
Shame when you think of these losses	3.9	8.5	27.2	23.7	35.7
A loss of concentration	4.2	10.2	24.0	28.3	32.9
Feel isolated or distant from other people when you think of these losses	4.2	8.8	25.8	25.4	35.3
A loss of sleep	4.9	7.8	20.8	21.2	44.5
Rage	2.1	8.8	17.3	24.7	46.6
Fearful or distrust the intentions of White people	4.6	12.0	21.9	23.7	36.4
Feel like it is happening again	4.6	9.2	27.2	23.7	33.9
Feel like avoiding places or people that remind you of these losses	2.8	8.8	21.2	23.3	43.1

A simple linear regression was conducted to determine if historical loss thoughts (HLS) predicted the outcome of historical loss associated symptoms (HLAS). The overall regression model was significant,  $R^2 = .142$ , adjusted  $R^2 = .139$ ,  $F(1, 280) = 46.457$ ,  $p < .000$ ,  $n=282$ . Historical loss thoughts were found to be a significant unique predictor in historical loss associated symptoms. A hierarchical multiple regression was conducted to determine if HLS accounted for a significant amount of the variance in HLAS after controlling for other influentially known psychosocial factors (age, gender, income, education) and controlling for AI/AN specific extreme stressors (PTSD diagnosis, boarding school attendance, family member

boarding school attendance, armed robbery victim/witness, attempted homicide victim/witness, domestic violence victim/witness, physical assault victim/witness, and sexual assault victim/witness). In the first step, the psychosocial factors and extreme stressors above accounted

**Table 12.** Coefficients for Model Testing of Historical Loss Thoughts (HLS) Predicting Historical Loss Associated Symptoms (HLAS).

<b>Model 1</b>	<b>B</b>	<b>Std Error</b>	<b>Beta</b>	<b>t</b>	<b>Sig</b>
Constant	4.489	.765		5.871	.000
Age	.004	.003	.068	1.133	.258
Gender	-.072	.119	-.037	-.609	.543
Income	-.072	.034	-.141	-2.142	.033**
Education	-.084	.048	-.113	-1.742	.083
PTSD dx	-.414	.156	-.173	-2.661	.008*
Armed robbery	.025	.146	.011	.170	.865
Attempted homicide	-.081	.175	-.031	-.465	.642
Domestic Violence	-.380	.130	-.224	-2.921	.004*
Physical Assault	-.130	.144	-.081	-.958	.339
Sexual Assault	.017	.151	.009	.111	.912
Boarding School Attendance	.153	.271	.033	.565	.573
Family Members Boarding School Attendance	-.227	.104	-.134	-2.175	.031**
<b>Model 2</b>	<b>B</b>	<b>Std Error</b>	<b>Beta</b>	<b>t</b>	<b>Sig</b>
Constant	3.150	.744		4.236	.000
Age	.007	.003	.136	2.394	.017**
Gender	-.030	.111	-.016	-.275	.784
Income	-.041	.032	-.080	-1.285	.200
Education	-.084	.045	-.112	-1.868	.063
PTSD dx	-.394	.145	-.165	-2.716	.007*
Armed robbery	.119	.136	.052	.874	.383
Attempted homicide	-.098	.163	-.037	-.599	.550
Domestic Violence	-.281	.122	-.166	-2.300	.022**
Physical Assault	-.195	.134	-.115	-1.454	.147
Sexual Assault	.084	.141	.043	.593	.553
Boarding School Attendance	.068	.252	.015	.268	.789
Family Members Boarding School Attendance	-.175	.098	-.103	-1.791	.074
Historical Loss Mean	.245	.039	.356	6.222	.000*

\* Significant at the 0.01 level. \*\* Significant at the 0.05 level.

for a significant amount of the variance in HLAS scores ( $R^2 = .207$ , adjusted  $R^2 = .168$ ,  $R^2$  change =  $.207$ ,  $F(12, 246) = 5.350$ ,  $p < .000$ ,  $n = 259$ ). Approximately 20% of the variability in historical loss associated symptoms is being accounted for the model including these psychosocial factors and extreme stressors. Household income, PTSD diagnosis, witnessing or being a victim of domestic violence, and family members' boarding school attendance were significant contributors in this model (see Table 12). In the second step, HLS explained an additional significant variance in HLAS after controlling the variance accounted for by the above psychosocial factors and extreme stressors ( $R^2 = .315$ , adjusted  $R^2 = .279$ ,  $R^2$  change =  $.108$ ,  $F(13, 245) = 8.674$ ,  $p < .000$ ,  $n = 259$ ). Approximately 31.5% of the variability in historical loss associated symptoms is being accounted for by the second model, which includes the psychosocial factors, extreme stressors, and historical loss thoughts. Age, PTSD diagnosis, family members' boarding school attendance, and historical loss thoughts were significant contributors in this model (see Table 12). Adding HLS to the model, resulted in a 10.8% statistically significant increase in predictive capacity for HLAS, consistent with a statistically significant emotional impact of historical loss thoughts on historical loss associated symptoms.

In sum, these analyses provide supportive evidence for Hypothesis 1. The results suggest that historical loss thoughts were present in the minds of this urban AI/AN sample and that these thoughts had an emotional impact on participants. There were significant differences in the frequency of historical loss thoughts among the oldest cohort, with the oldest cohort thinking about these losses less frequently. Finally, historical loss thoughts significantly predicted the historical loss associated symptoms for this sample, even after controlling for psychosocial factors and AI/AN specific extreme stressors.

### **The proximal stressor model.**

Hypothesis 2 predicted that the proximal stressor of perceived discrimination (PD) would significantly contribute to the overall variance of historical loss associated symptoms (HLAS) and that this relationship would be strengthened by historical loss thoughts (HLS) as predicted by Whitbeck, Adams, Hoyt, and Chen (2004). A simple linear regression was conducted to determine if perceived discrimination (PD) predicted the outcome of historical loss associated symptoms (HLAS). The overall regression model was significant ( $R^2 = .049$ , adjusted  $R^2 = .045$ ,  $F(1, 279) = 14.342$ ,  $p < .000$ ,  $n=281$ ). The proximal stressor of perceived discrimination was found to be a significant unique predictor in historical loss associated symptoms.

A hierarchical multiple regression was conducted to determine if PD accounted for a significant amount of the variance in HLAS after controlling for other influentially known psychosocial factors (age, gender, income, education) and controlling for AI/AN specific extreme stressors (PTSD diagnosis, boarding school attendance, family member boarding school attendance, armed robbery victim/witness, attempted homicide victim/witness, domestic violence victim/witness, physical assault victim/witness, and sexual assault victim/witness). In the first step, the psychosocial factors and extreme stressors above accounted for a significant amount of the variance in HLAS scores ( $R^2 = .207$ , adjusted  $R^2 = .168$ ,  $R^2$  change =  $.207$ ,  $F(12, 245) = 5.326$ ,  $p < .000$ ,  $n= 258$ ). Household income, PTSD diagnosis, witnessing or being a victim of domestic violence, and family members' boarding school attendance were significant contributors in this model (see Table 13). Approximately, 20% of the variability in historical loss associated symptoms is being accounted for the model including these psychosocial factors and extreme stressors, as previously confirmed by Hypothesis 1 results. In the second step, PD was added and it explained an additional significant variance in HLAS after controlling the



variance accounted for by the above psychosocial factors ( $R^2 = .234$ , adjusted  $R^2 = .193$ ,  $R^2$  change = .027,  $F(13, 244) = 5.723$ ,  $p < .000$ ,  $n = 259$ ). Household income, education level, PTSD

**Table 13.** Coefficients for Model Testing of Perceived Discrimination (PD) Predicting Historical Loss Associated Symptoms (HLAS).

Model 1	B	Std Error	Beta	t	Sig
Constant	4.489	.766		5.859	.000
Age	.004	.003	.067	1.126	.261
Gender	-.072	.120	-.037	-.599	.550
Income	-.072	.034	-.141	-2.136	.034**
Education	-.084	.048	-.113	-1.738	.083
PTSD dx	-.415	.156	-.173	-2.655	.008*
Armed robbery	.025	.146	.011	.169	.866
Attempted homicide	-.081	.175	-.031	-.464	.643
Domestic Violence	-.380	.130	-.224	-2.915	.004*
Physical Assault	-.138	.144	-.081	-.957	.340
Sexual Assault	.017	.151	.009	.111	.912
Boarding School Attendance	.153	.271	.033	.563	.574
Family Members Boarding School Attendance	-.227	.105	-.134	-2.163	.031**
Model 2	B	Std Error	Beta	t	Sig
Constant	3.469	.831		4.173	.000
Age	.004	.003	.075	1.263	.208
Gender	-.083	.118	-.042	-.703	.483
Income	-.080	.033	-.157	-2.404	.017**
Education	-.105	.048	-.141	-2.182	.030**
PTSD dx	-.435	.154	-.182	-2.823	.005*
Armed robbery	.015	.144	.006	.103	.918
Attempted homicide	-.030	.174	-.011	-.171	.864
Domestic Violence	-.355	.129	-.210	-2.764	.006*
Physical Assault	-.106	.143	-.062	-.745	.457
Sexual Assault	.048	.150	.025	.324	.746
Boarding School Attendance	.120	.268	.026	.447	.655
Family Members Boarding School Attendance	-.150	.107	-.088	-1.409	.160
Perceived Discrimination Mean	.250	.086	.186	2.920	.004*

\* Significant at the 0.01 level. \*\* Significant at the 0.05 level.

diagnosis, witnessing or being a victim of domestic violence, and perceived discrimination were significant contributors in this model (See Table 13). Approximately 23.4% of the variability in historical loss associated symptoms is being accounted for by the second model, which includes the psychosocial factors, extreme stressors, and perceived discrimination. Adding PD to the model resulted in a 2.7% statistically significant increase in predictive capacity for HLAS. Perceived discrimination significantly predicted historical loss associated symptoms after controlling for other known psychosocial factors and extreme stressors.

Next, a moderated multiple regression analyses were conducted to test if historical loss thoughts (HLS) strengthened the relationship between PD and HLAS ( $R = .4082$ ,  $R^2 = .1666$ ,  $F(3, 277) = 18.4581$ ,  $p < .000$ ,  $n = 281$ ). The moderation analyses indicated that the interaction between PD and HLS was not significant ( $R^2$  change =  $.0060$ ,  $F(1, 277) = 1.9994$ ,  $p = .1585$ ,  $n = 281$ ). HLS does not appear to moderate the relationship between PD and HLAS.

Hypothesis 2 was partially supported. The proximal stressor of perceived discrimination significantly contributed to the overall variance of historical loss associated symptoms but historical loss thoughts did not significantly strengthen (or weaken) the relationship between these two variables as predicted.

### **The distal stressor model.**

Hypothesis 3 predicted that historical loss (HLS) will significantly contribute to the overall variance in health outcomes (i.e. mental health outcomes- historical loss associated symptoms [HLAS], health outcomes- health-promoting behaviors [HPLP], substance abuse outcomes- alcohol abuse [AA], commercial cigarette use, [CCU]) and that these relationships will be influenced by psychosocial cultural factors (i.e. ethnic identity attitudes [EI], mainstream

comfort [MC], social affiliation/intimacy [SA]) (see Figure 2) as conceptualized in the *Indigenist Stress Coping Model* (Walters & Simoni, 2002).

### ***Historical loss associated symptoms.***

Hypothesis 1 results established that historical loss thoughts (HLS) predicted the outcome of historical loss associated symptoms (HLAS),  $R^2 = .142$ , adjusted  $R^2 = .139$ ,  $F(1, 280) = 46.457$ ,  $p < .000$ ,  $n=282$ . Moderated multiple regression analyses were conducted to test if different psychosocial cultural variables (EI, MC, and SA) influenced the relationship between historical loss thoughts (HLS) and historical loss associated symptoms (HLAS). The first model included EI as the moderator between HLS and HLAS ( $R = .5339$ ,  $R^2 = .2851$ ,  $F(5, 275) = 21.93$ ,  $p < .000$ ,  $n= 281$ ) while holding constant the two other psychosocial cultural variables of MC and SA. The moderation analyses indicated that the interaction between EI and HLS was not significant ( $R^2$  change =  $.0004$ ,  $F(1, 275) = .1404$ ,  $p = .7082$ ,  $n= 281$ ). EI does not appear to moderate the relationship between HLS and HLAS. The second model included MC as the moderator ( $R = .5341$ ,  $R^2 = .2853$ ,  $F(5, 275) = 21.9506$ ,  $p < .000$ ,  $n= 281$ ) while holding constant the two other psychosocial cultural variables of EI and SA. The moderation analyses indicated that the interaction between MC and HLS was not significant ( $R^2$  change =  $.0006$ ,  $F(1, 275) = .2142$ ,  $p = .6439$ ,  $n= 281$ ). MC does not appear to moderate the relationship between HLS and HLAS. As previously reported on chapter 3, the MC subscale did not have adequate internal consistency. The third model included SA as the moderator ( $R = .5337$ ,  $R^2 = .2849$ ,  $F(5, 275) = 21.9096$ ,  $p < .000$ ,  $n= 281$ ) while holding constant the two other psychosocial cultural variables of EI and MC. The moderation analyses indicated that the interaction between SA and HLS was not significant ( $R^2$  change =  $.0002$ ,  $F(1, 275) = .0675$ ,  $p = .7953$ ,  $n= 281$ ). SA does not appear to moderate the relationship between HLS and HLAS. Hypothesis 3's prediction that the

relationship between historical loss and historical loss associated symptoms would be influenced by the psychosocial cultural factors of ethnic identity attitudes, mainstream comfort, and social affiliation/intimacy was not supported.

### ***Health-promoting behaviors.***

A simple linear regression was conducted to determine if the distal stressor of historical loss thoughts (HLS) predicted the health outcome of engaging in health-promoting behaviors (HPLP). Preliminary bivariate correlation results ( $r(280) = .036, p = .273$ ) indicated that there appeared to be no significant linear relationship between historical loss thoughts and health-promoting behaviors. The regression analyses confirmed that the overall regression model was not significant,  $R^2 = .001$ , adjusted  $R^2 = -.002$ ,  $F(1, 280) = .365, p = .546, n = 282$ . Historical loss thoughts were not found to be a significant unique predictor in health-promoting behaviors. No further analyses for moderation were conducted given non-linear relationship between HLS and HPLP variables. Hypothesis 3's prediction that historical loss thoughts would significantly contribute to the overall variance in health outcomes for health-promoting behaviors and that this relationship would be influenced by the psychosocial cultural factors of ethnic identity attitudes, mainstream comfort, and social affiliation/intimacy was not supported.

### ***Alcohol use.***

A logistic regression analysis was conducted to predict alcohol abuse (AA) using historical loss thoughts (HLS) as predictor. Preliminary bivariate correlation results ( $r(280) = -.043, p = .476$ ) indicated that there appears to be no significant linear relationship between historical loss thoughts and alcohol abuse. The regression analyses confirmed that the test of full model against a constant only model was not statistically significant indicating that the HLS predictor does not reliably distinguish between alcohol non-abusers and alcohol abusers (*chi*

*square* = .514,  $p = .473$ , with  $df = 1$ ). Nagelkerke's  $R^2$  of .002 indicated a weak relationship between prediction and grouping. The Wald criterion demonstrated that HLS did not make a significant contribution to prediction ( $p = .475$ ). Historical loss thoughts were not found to be a significant unique predictor of alcohol abuse. No further analyses for moderation were conducted given non-linear relationship between HLS and AA. Hypothesis 3's prediction that historical loss thoughts would significantly contribute to the overall variance in substance use for alcohol abuse and that this relationship would be influenced by the psychosocial cultural factors of ethnic identity attitudes, mainstream comfort, and social affiliation/intimacy was not supported.

#### ***Commercial cigarette use.***

A logistic regression analysis was conducted to predict commercial cigarette use for non-ceremonial purposes in the past year (CCU) using historical loss thoughts (HLS) as predictor. The test of full model against a constant only model was statistically significant, indicating that the HLS predictor does reliably distinguish between commercial cigarette non-users and commercial cigarette users (*chi square* = .9.081,  $p = .003$ , with  $df = 1$ ). Nagelkerke's  $R^2$  of .043 indicated a mildly strong relationship between prediction and grouping. Overall prediction success was 60.6 (88.4% for commercial cigarette non-use and 17.3% for use). The Wald criterion demonstrated that HLS made a significant contribution to prediction ( $p = .003$ ). Exp (B) value indicates that when historical loss thoughts score increase by one unit, the odds ratio is 1.3 times as large. Therefore, participants are 1.3 more times likely to be commercial cigarette users as historical loss thoughts increase by one unit. Historical loss thoughts were found to be a significant unique predictor of commercial cigarette abuse.

Next, moderated logistic regression analyses were conducted to test if the psychosocial cultural variables of ethnic identity (EI), mainstream comfort (MC), and social affiliation (SA) influenced the relationship between historical loss thoughts (HLS) and commercial cigarette use (CCU). The first model included EI as the moderator (-2LL= 364.3856, Model LL= 11.8151,  $p < .0374$ , McFadden= .0314, CoxSnell= .0412, Nagelkerke = .0558,  $n= 281$ ) while holding constant the two other psychosocial cultural variables of MC and SA. The moderation analyses indicated that the interaction between EI and HLS was not significant (coefficient= .1678,  $Z= .9058$ ,  $p= .3650$ ). EI does not appear to moderate the relationship between HLS and CCU. The second model included MC as the moderator (-2LL= 360.1422, Model LL= 16.0585,  $p < .0067$ , McFadden= .0427, CoxSnell= .0555, Nagelkerke = .0753,  $n= 281$ ) while holding constant the two other psychosocial cultural variables of EI and SA. The moderation analyses indicated that the interaction between MC and HLS was significant (coefficient= .3684,  $Z= 2.1864$ ,  $p = .0288$ ). However, the MC subscale did not have adequate internal consistency. While MC does appear to moderate the relationship between HLS and CCU, this finding needs to be interpreted with caution given diminished internal consistency of the MC subscale. The third model included SA as the moderator (-2LL= 364.1351, Model LL= 12.0656,  $p < .0339$ , McFadden= .0321, CoxSnell= .0420, Nagelkerke = .0570,  $n= 281$ ) while holding constant the two other psychosocial cultural variables of EI and MC. The moderation analyses indicated that the interaction between SA and HLS was not significant (coefficient= -.1326,  $Z= -1.0289$ ,  $p = .3035$ ). SA does not appear to moderate the relationship between HLS and CCU. Hypothesis 3's prediction that historical loss thoughts would significantly contribute to the overall variance in cigarette use and that it would be influenced by the psychosocial cultural factor of mainstream comfort was supported. Hypothesis 3's prediction that the relationship between historical loss

thoughts and cigarette use would be influenced by the psychosocial cultural factors of ethnic identity attitudes, mainstream comfort, and social affiliation/intimacy was not supported.

#### ***Commercial smokeless tobacco use.***

Statistical analyses to determine if historical loss thoughts predicted commercial smokeless tobacco abuse were not conducted due to minimal endorsement of smokeless tobacco use in the form of chewing tobacco among participants ( $n = 5$ ).

#### **Other significant relationships among variables.**

Hypothesis 4 predicted that there would be other significant relationships among some of the study variables, although the types of relationships were not hypothesized due to the exploratory nature of this research question. Based on the results from exploratory data on significant correlations, several exploratory regression analyses were conducted to detect other significant relationships among study variables. A simple linear regression was conducted to determine if HLS predicted the outcome of PD. The overall regression model was significant,  $R^2 = .063$ , adjusted  $R^2 = .060$ ,  $F(1, 279) = 18.764$ ,  $p < .000$ ,  $n=280$ . EI also predicted PD ( $R^2 = .143$ , adjusted  $R^2 = .140$ ,  $F(1, 280) = 46.828$ ,  $p < .000$ ,  $n=281$ ). Historical loss thoughts, and ethnic identity attitudes were each found to be significant unique predictors for perceived discrimination. In addition, there was no significant linear relationship between the proximal stressor of perceived discrimination and the health-promoting behaviors outcome.

A simple linear regression was conducted to determine if HLAS predicted the outcome of HPLP given preliminary evidence of a weak negative relationship between these two variables (see Table 2). The overall regression model was significant,  $R^2 = .067$ , adjusted  $R^2 = .064$ ,  $F(1, 280) = 20.092$ ,  $p < .000$ ,  $n=280$ . Historical loss associated symptoms was a significant unique predictor of health-promoting behaviors. Lastly, a logistic regression analysis was conducted to

predict commercial cigarette use for non-ceremonial purposes in the past year (CCU) using historical loss associated symptoms (HLAS) as the predictor. The test of full model against a constant only model was statistically significant, indicating that the HLAS predictor reliably distinguishes between commercial cigarette non-users and commercial cigarette users (chi square = 7.365,  $p = .007$ , with  $df = 1$ ). Nagelkerke's  $R^2$  of .035 indicated a mildly strong relationship between prediction and grouping. Overall prediction success was 60.3 (93.0% for commercial cigarette non-use and 9.1% for use). The Wald criterion demonstrated that HLAS made a significant contribution to prediction ( $p = .007$ ). Exp (B) value indicated that when the historical loss associated symptoms score increases by one unit, the odds ratio is 1.5 times as large. Therefore, participants are 1.5 more times likely to be commercial cigarette users as historical loss associated symptoms increase by one unit. Historical loss associated symptoms were found to be a significant unique predictor of commercial cigarette abuse.

\*Qualitative questions about traditional health practices will be reviewed after completion of this project.



## Chapter 5

### Discussion

The purpose of this study was to: (1) determine the prevalence of historical loss and its associated symptoms as operationalized by Whitbeck, Adams, Hoyt, and Chen (2004) in a Midwest urban AI/AN adult sample; (2) empirically test proposed theoretical models to explain AI/AN health disparities (Walters & Simoni, 2002; Whitbeck, Adams, Hoyt, & Chen, 2004); (3) increase understanding about the relationship among proximal and distal stressors faced by urban AI/AN adults and their health outcomes; (4) explore whether different psychosocial cultural factors may influence any impact that historical loss may have on the health outcomes of this urban AI/AN adult sample; (5) add to the knowledgebase on urban AI/AN adults; and (6) support local AI/AN organizations in efforts to promote health equity among these communities through project collaboration and sharing of study results. This chapter will discuss the implications of the results for each research question, their convergence or divergence with previous literature, the limitations of this study, its implications, future research recommendations, and concluding remarks.

#### **The Prevalence of Historical Loss and Historical Loss Associated Symptoms**

Hypothesis 1 predicted that there would be a significant prevalence of historical loss and historical loss associated symptoms for this sample of urban AI/ANs. The results of this study support the prevalence of the construct of historical loss and historical loss associated symptoms as operationalized by Whitbeck, Adams, Hoyt, and Chen (2004), along with its emotional impact on urban AI/AN adults living in the Midwest. There is evidence of significant emotional impact from historical loss thoughts on the emotional lives of AI/ANs in this sample, even after accounting for other psychosocial factors (age, gender, income, education level) and AI/AN

specific extreme stressors (PTSD diagnosis, boarding school attendance, family member boarding school attendance, armed robbery victim/witness, attempted homicide victim/witness, domestic violence victim/witness, physical assault victim/witness, and sexual assault victim/witness). The results suggest that historical loss thoughts can influence the level of emotional distress of urban AI/ANs, independent from the impact of other known psychosocial factors and AI/AN specific extreme stressors.

Results are consistent with previous findings that the historical loss phenomenon is salient for current adult generations of AI/ANs (Whitbeck, Adams, Hoyt, & Chen, 2004). These findings provide additional support for theoretical frameworks that take into account the present impact of distal or historical stressors in AI/ANs' current lives including ideas from Braveheart-Jordan and DeBruyn (1995), Duran and Duran (1995), Duran (2006), Walters and Simoni (2002), and Whitbeck, Adams, Hoyt, and Chen's (2004). For this urban AI/AN sample, the historical losses were present and had an emotional impact, regardless of participants' distance from their reservations or from historical events. This is consistent with indigenous knowledge about the intergenerational nature of the "soul wound" as discussed by Duran and Duran (1995) and Duran (2006).

The frequency of historical loss thoughts in this urban sample is comparable to the frequency observed in AI/ANs living in different reservations of the Midwest and Canada (Whitbeck, Adams, Hoyt, & Chen, 2004). When comparing the results of this study to the results of Whitbeck, Adams, Hoyt, and Chen's (2004) study, the combined percentages of participants endorsing frequent thoughts (several times a day, daily, or weekly) for the particular losses of *loss of self-respect from poor treatment by government officials*, *loss of family ties because of boarding schools*, and *loss of family ties from the reservation to government*

*relocation*, exceeded those of reservation participants in Whitbeck's study. The higher frequency of thoughts for certain losses could be related to some historical losses having more relevance to the experiences of urban AI/ANs. The higher prevalence of thoughts about the loss of family ties in this sample could also be connected to the unique impact of urbanization policies on disconnecting urban AI/ANs from reservation familial ties.

Another finding of this study regarding the prevalence of historical loss thoughts demonstrated significant generational differences in the frequency of these thoughts between the oldest cohort of participants (ages 70-85) and all other cohorts. This is consistent with Whitbeck, Adams, Hoyt, and Chen's (2004) findings that historical loss is not exclusive to older generations, but that it can impact younger adults. For this sample, the historical loss thoughts were more frequent in adults 18 to 69 than in the oldest cohort. This finding may be associated to the proximity of the older participants' to more overt government initiatives of forced assimilation (Brave Heart, 2003; Braveheart-Jordan & DeBruyn, 1995; Deloria, 1988). It is possible that for the oldest age cohort, and their parents, disconnection from AI/AN culture and assimilation into mainstream culture served as a survival strategy. This disconnection could have prevailed throughout their lives resulting in compartmentalization or disconnection from the historical losses.

The results of this study provide evidence of the emotional distress associated with historical loss thoughts for urban AI/ANs. When contrasting the emotional impact exhibited in this sample with results from Whitbeck, Adams, Hoyt, and Chen's (2004) study, this urban sample exhibited a higher frequency of combined percentages (always, often, sometimes) for all emotional responses to historical loss thoughts than the emotional responses exhibited by reservation participants in Whitbeck's study. Living in an urban area did not appear to make

historical losses less emotionally distressful. This finding suggests that AI/ANs living in urban areas of the Midwest can be as emotionally impacted or more by thoughts of historical losses as AI/ANs living in reservations in the Midwest and Canada. This is consistent with findings by Wiechelt, Gryczynski, Johnson, and Caldwell (2012) in which the urban sample in their study had higher scores on historical loss thoughts and symptoms than the scores reported by the reservation participants in Whitbeck, Adams et al. (2004), and Whitbeck, Chen et al. (2004).

### **The Proximal Stressor Model**

Hypothesis 2 predicted that the proximal stressor of perceived discrimination would significantly contribute to the overall variance of historical loss associated symptoms and that this relationship would be strengthened by the distal stressor of historical loss. This study examined the premise presented by Whitbeck, Adams, Hoyt, and Chen (2004) about the potential interaction of proximal and distal stressors. This interaction was proposed to exacerbate the impact of historical loss associated symptoms (Whitbeck, Adams, Hoyt, & Chen, 2004). The findings partially supported Whitbeck, Adams, Hoyt, and Chen's hypothesis. As predicted, the proximal stressor of perceived discrimination had a significant impact on historical loss associated symptoms, even after controlling for the previously named psychosocial factors and extreme stressors. This suggests that perceived discrimination is a present day stressor associated with emotional distress in urban AI/AN adults.

The results did not provide evidence of the distal stressor of historical loss thoughts significantly strengthening (or weakening) the relationship between perceived discrimination and historical loss associated symptoms as predicted by Whitbeck, Adams, Hoyt, and Chen (2004). The lack of support for the moderation effects of historical loss thoughts in this model suggests that the interaction between a proximal contemporary stressor such as perceived discrimination

and a distal stressor such as frequent historical loss thoughts might not compound to produce a higher emotional toll on AI/ANs as proposed by Whitbeck, Adams, Hoyt, and Chen (2004). However, both the proximal and distal stressors appeared to significantly predict historical loss associated symptoms. An alternative explanation for the lack of a significant interaction between the proximal and distal stressors may be that the relationships between these stressors may not follow a moderation path but a different pathway such as mediation.

### **The Distal Stressor Model**

Hypothesis 3 predicted that historical loss thoughts would significantly contribute to the overall variance in multiple health outcomes (i.e. health outcomes- health-promoting behaviors, substance abuse outcomes- alcohol abuse, commercial cigarette abuse, commercial smokeless tobacco abuse, mental health outcomes- historical loss associated symptoms) and that these relationships would be influenced by psychosocial cultural factors (i.e. ethnic identity attitudes, mainstream comfort, social affiliation/intimacy) as proposed by Walters and Simoni's (2002) Indigenist Stress-Coping Model. This study examined this theoretical model by imputing quantitative measures for some of the variables proposed in the model in an attempt to empirically test the Indigenist Stress-Coping Model. The results for each health outcome are discussed next.

#### **Mental health.**

As previously stated, the results confirmed Hypothesis 1 suggesting that historical loss thoughts significantly contributed to historical loss associated symptoms. Hypothesis 3 also predicted that the relationship between historical loss thoughts and the mental health outcome of historical loss associated symptoms would be influenced by the psychosocial cultural factors mentioned above. The results did not support this study's hypothesis that the psychosocial

cultural factors of ethnic identity attitudes, mainstream comfort, and social affiliation as measured by the Scale of Ethnic Identity (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006) moderated the relationship between the distal stressor of historical loss and the mental health outcome of historical loss associated symptoms. Although this finding was unexpected, the lack of support for this prediction could be related to the content and specificity of the SEE measure, which has not been previously used with AI/ANs. Given the exploratory nature of utilizing the SEE measure as a way of approaching a quantitative study of cultural buffers in urban AI/ANs, these results cannot completely rule out the coping role of cultural buffers as conceptualized by the Indigenist Stress-Coping Model (Walters & Simoni, 2002). Significant results may be obtained through future development and use of other AI/AN specific measures or methods of inquiry that may be more tailored to examine the ways in which AI/ANs utilize cultural factors to cope with the stressors in their lives.

### **Physical health.**

Hypothesis 3 predicted that historical loss thoughts would significantly contribute to the overall variance in the physical health outcome of health-promoting behaviors and that this relationship would be influenced by the psychosocial cultural factors mentioned above. The results of this study did not support the premise that historical loss thoughts impact health-promoting behaviors in urban AI/ANs. The findings suggest that no significant linear relationship exists between historical loss thoughts and health-promoting behaviors. Given these results, psychosocial cultural variables were not explored. While historical loss cognitions may not have a direct impact on the health behaviors of AI/ANs, there may be other unknown mechanisms of historical trauma that may influence health behaviors and outcomes (Whitbeck, Adams, Hoyt, & Chen, 2004). However, research from fields such as epigenetics may be better

equipped to investigate processes outside of health behaviors that may connect intergenerational trauma and other stressors to the development of physical illnesses (Toyokawa, Uddin, Koenen, & Galea, 2012). At the same time, the lack of relationship between historical loss and health behaviors can be view as a positive finding. In spite of thoughts of historical losses, AI/ANs are engaging in health-promoting behaviors. This engagement can assist in reducing health disparities for these groups.

### **Alcohol use.**

Hypothesis 3 predicted that historical loss thoughts would significantly contribute to the overall variance in the health outcome of alcohol use and that this relationship would be influenced by the psychosocial cultural factors mentioned above. Contrary to proposed theories, the findings of this study did not support the premise that historical loss thoughts significantly predicted alcohol use versus abuse. The results of this study suggest that there is no apparent significant linear relationship between historical loss thoughts and alcohol use in this urban sample. The role of psychosocial cultural variables was not explored given the lack of significant relationship between historical loss thoughts and alcohol use. This study did not provide support for Brave Heart and DeBruyn's (1998), and Whitbeck, Chen, Hoyt, and Adams' (2004) ideas that alcohol may assist with coping or numbing of historical losses associated with genocide. The results also failed to support previous research on the comorbidity of historical loss thoughts and substance abuse (Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013). On the basis of this finding, alcohol may not be a way in which urban AI/ANs in this sample directly coped with historical loss thoughts.

On the other hand, historical loss cognitions may not be the sole precursor to alcohol abuse. Other unconscious processes associated with historical trauma may be responsible for

externalizing behaviors such as alcohol abuse. Additionally, various psychological defenses may limit participants' awareness about the pain they carry from historical losses, as well any driving motives for their substance use. Therefore, this study's findings cannot fully discard the impact of historical trauma on alcohol use.

The majority of participants in this sample (62.5%) did not abuse alcohol. This study also supported May's (1994) assertion about the common misconception that alcoholism is more prevalent in AI/ANs, when alcohol abuse rather than dependence is more prevalent. Of the 37.5% of participants who did meet criteria for alcohol abuse, many engaged in binge drinking patterns more customary of alcohol abuse rather than the daily use associated with alcohol dependence (American Psychiatric Association, 2013). This finding may be useful in the development of strategies to address alcohol use in urban AI/AN communities.

#### **Commercial cigarette use.**

Hypothesis 3 predicted that historical loss thoughts would significantly contribute to the overall variance in the health outcome of commercial cigarette use and that this relationship would be influenced by the psychosocial cultural factors mentioned above. The prediction that historical loss thoughts would significantly contribute to commercial cigarette use was supported by this study's findings. Frequency of historical loss thoughts reliably distinguished smokers from non-smokers. As historical loss thoughts increased, so did the chances of being a smoker. The frequency of historical loss associated symptoms reliably distinguished smokers from non-smokers. As historical loss associated symptoms increased, so did the chances of being a smoker. It appears that both the cognitive and emotional aspects of historical loss had an impact on commercial cigarette use in this sample of urban AI/AN adults.



The results suggested that the psychosocial cultural variable of mainstream comfort moderated the relationship between historical loss thoughts and cigarette use. Increased comfort in navigating mainstream society may facilitate access to commercial cigarette use. However, ethnic identity and social affiliation did not seem to moderate the relationship between historical loss thoughts and commercial cigarette use. As previously stated, the findings regarding psychosocial cultural variables might be confounded by the content and specificity of the SEE measure, which has not been previously used with AI/ANs. Therefore, interpretation about the influence of mainstream comfort should be evaluated with caution.

The majority of participants in this sample (60.8%) had not used commercial cigarettes for non-ceremonial purposes in the past year. This study did not examine the misconceptions that commercial tobacco use is a traditional part of AI/AN cultures (Angstman, Harris, Goldbeck, & Swaney, 2009; Burgess et al., 2007). Therefore, no interpretations can be made about participants' perceptions of their connection with commercial tobacco and their AI/AN culture(s). What can be said is that for those commercial cigarette users coming from AI/AN cultures in which tobacco is considered sacred, they may be engaging in culturally incongruent practices that may be related to the impact of colonization (Brokenleg & Tornes, 2013; Smith, 2005).

Originally, this study proposed to use moderate levels of nicotine dependence as a signifier of commercial cigarette abuse. An unexpected finding of this study was that three quarters of the smokers in this sample exhibited low levels of nicotine dependence. One interpretation that may be considered for this finding is that the difference in patterns of commercial cigarette use could be associated with smoking for psychological purposes rather than for physical purposes. Another interpretation may be that participants may engage in social

smoking patterns (such as smoking when drinking alcohol) rather than nicotine dependence patterns. The increased cost of cigarettes may also make them less accessible to individuals living with a lower income. The results point to lower physical dependence on nicotine and reduced use of cigarettes. Lower levels of nicotine dependence may be more amenable to smoking cessation interventions.

### **Commercial smokeless tobacco use.**

Hypothesis 3 predicted that historical loss thoughts would significantly contribute to the overall variance in the health outcome of commercial smokeless tobacco use and that this relationship would be influenced by the psychosocial cultural factors mentioned above. This urban sample yielded only five participants who utilized commercial smokeless tobacco. This unexpected finding may be associated with lower use of chewing tobacco among urban AI/AN peoples. With smokeless tobacco now being available in non-regulated forms such as e-cigarettes, it is possible that smokeless tobacco users were not captured by the measure used in this study (FTND-ST; Ebbert, Patten, & Schroeder, 2006), which was specific to tobacco chewing.

### **Other Significant Findings**

Other noteworthy findings are discussed next. Even though 81% of the sample had a high school degree or higher educational level, approximately 56% of the sample was living under significant income restrictions and/or poverty (less than \$20,000 per year). This is an example of the continued pervasive inequities faced by urban AI/AN communities. This finding is consistent with Kirmayer, Gone, and Moses' (2014) discussion about the nature of the historical trauma phenomenon not accounting for structural problems that may influence the current economic and political circumstances of AI/AN peoples.

Many participants struggled with the questions regarding awareness and adherence to their traditional indigenous diet. These were the most frequent questions that participants asked for clarification during data collection. The results of these questions are inconsistent, with more participants endorsing that they were not aware of their traditional indigenous diet than those reporting that they never ate an indigenous diet. Some participants who reported not being aware of their indigenous diet may have answered that they do eat an indigenous diet sometimes, often or routinely, regardless of their awareness of it. These inconsistent results may be associated with the wording of the questions. Another explanation may be associated with urban AI/ANs limited access to both information about what their particular Tribe's indigenous diet consists of, and access to the actual foods that are indigenous to their specific AI/AN culture. This could be related with historical losses and urbanization. Moreover, access to certain foods may be limited by income restrictions and social class privileges.

In addition to the finding that the distal stressor of historical loss thoughts is not a predictor of health-promoting behaviors, descriptive statistics also indicate that there is not a significant relationship between the proximal stressor of perceived discrimination and the outcome of health-promoting behaviors. These two stressors do not appear to impact engagement in health-promoting behaviors. On the other hand, historical loss associated symptoms was a significant factor in predicting health-promoting behaviors. It appears that, even though, the historical loss thoughts are not directly connected to health-promoting behaviors, the emotional impact of these thoughts could affect engagement in health-promoting behaviors. These findings may be considered when attempting to understand how psychosocial stressors may impact health behaviors. The impact of psychosocial stressors may not always be direct. Furthermore, there might be other factors that are more relevant in increasing or

maintaining health behaviors in urban AI/ANs than the ones proposed in this study. The results suggested an approximately normally distributed curve for participants' engagement in health-promoting behaviors with most participants engaging in health-promoting behaviors on a "sometimes" frequency. More frequent engagement in health-promoting behaviors (often or routinely) may assist participants in achieving a lifestyle that may increase stress management and the prevention of illness as conceptualized by Walker and Hill-Polerecky, (1996) and Walker, Sechrist, and Pender (1995).

For this sample, the highest diagnosed mental illnesses were depression and anxiety, not post-traumatic stress disorder. A large portion of the sample had witnessed or survived a traumatic experience, with 14% having been previously diagnosed with post-traumatic stress disorder. These results may help to continue to separate the construct of historical loss from post-traumatic stress disorder. At the same time, lower reports of the diagnoses of post-traumatic stress disorder do not mean lower prevalence of this disorder in this sample. Access to appropriate mental health care and funding limitations for these types of services may impact the detection and treatment of PTSD in urban AI/ANs. Additionally, drug abuse was the least endorsed diagnosed mental illness in this sample. This finding can be considered when discussing the larger umbrella of substance abuse, as types of substances abused may differ by region.

### **Limitations**

The main limitation of this study is that it utilized a Western framework of empirical research to examine an indigenous phenomenon. As indicated by Duran and Duran (1995), "to assume that phenomena from another worldview can be adequately explained from a totally foreign worldview is the essence of psychological and philosophical imperialism" (p. 25). A

brief encounter with an urban AI/AN population only provides a small glimpse of a very complex phenomenon that was not meant to be understood through Western frameworks. It would be impossible to fully understand the “soul wound” solely by utilizing Western research approaches and ways of knowing. Studying historical loss through quantitative approaches may further contribute to a colonized perspective of indigenous peoples, as these approaches are associated with objective examination that is not equipped to examine complex and contextual cultural matters (Wendt & Gone, 2012). Furthermore, the quantitative measure used in this study to explore psychosocial cultural factors may not have captured participants’ cultural variables. This limited the opportunity to explore the resilience and coping of urban AI/ANs in this sample.

Another limitation of this study is that it focused on understanding historical trauma or the “soul wound” through the historical loss and historical loss associated symptoms framework (Whitbeck, Adams, Hoyt, & Chen, 2004). This framework is primarily based on evaluating the frequency of conscious cognitions and reactions to these cognitions. From an indigenous perspective, a cognitive approach to the study of the “soul wound” is inconsistent with AI/AN peoples’ understanding of the multiple facets of beings (Duran, 2006). Multiple psychological perspectives also endorse the influence that unconscious processes have on our psychological functioning. Therefore, solely focusing on a cognitive view of the historical trauma phenomenon limits our ability to understand it. Utilizing a cognitive framework also limits this study’s ability to capture unconscious processes that may impact health behaviors such as alcohol abuse. Moreover, experiencing a feeling in reaction to a thought does not necessarily equal being in emotional distress. Defining emotional distress based on the frequency of experienced feelings as conceptualized by Whitbeck, Adams, Hoyt, and Chen (2004) is a limitation of this study as it

pathologizes what may be within the common realm of emotional experience. Overall, the utilization of the HLS and HLAS quantitative scales yielded results that do not capture the complexity of the “soul wound”.

Many nations were represented in this sample of urban AI/AN adults. The differences in AI/AN group histories and experiences of colonization may limit the accuracy of the results regarding historical losses. Given the diversity in AI/AN cultures and the number of nations represented in this sample, this study could not address culture specific factors for any particular nation. Within-group differences among AI/AN nations, limit the generalizability of these results. Not examining a particular AI/AN cultural group also limited this study’s capabilities of making sense of the results through a culture-specific lens.

At the same time, about a third of participants represented a particular Tribe. This sampling overrepresentation may have occurred given the direct collaboration between this author and leaders from that specific Tribe. This collaboration resulted in data collection at their Tribal offices and at a Tribally hosted community event. Overrepresentation from a particular Tribe may impact the results of this study. A more balanced sample in terms of Tribal identification may have yielded different results on historical loss and its associated symptoms given the differences in boarding school, removal, and urbanization histories, as well as Tribal resources among Tribes. However, data collection at this Tribal site also yielded participation from members from other Tribes. Similarly, data collection at other community sites also yielded participation from members of this particular Tribe. The overall sample appeared to be somewhat representative of the variety of identities found in an urban AI/AN regional sample, so it cannot be ascertained if this sampling overrepresentation was in fact a limitation of this study.

While this study was informed by different community agencies, not working with a particular Tribe limited the project's ability to fully follow a Tribal Participatory framework (Fischer & Ball, 2003). Not forming a community based advisory board and having direct community input prior to developing the study design is another limitation of this study. Not having partners involved in all stages of the project as customary in CBPR (Christopher, S., Watts, V., Knows His Gun McCormick, A. & Young, S., 2008) decreased opportunities for decolonization in this inquiry. It also limited the meaningfulness and sovereignty in research for these communities, as they were not the ones driving the inquiry and study design.

Finally, the study data were obtained by self-report. Self-report limits the possibility for independent verification of mental health, substance abuse, and physical diagnoses. Additionally, it limits confirmation on whether the participants were actively engaged in medical, mental health, or substance abuse treatment at the time of the study. Therefore, the data collection method of self-report may be considered a limitation of this study.

### **Implications**

The findings of this study have implications on the physical and mental health treatment of AI/ANs living in urban areas of the Midwest. Given the high incidences of depression, anxiety, panic attacks, posttraumatic stress disorder, and reported exposure to trauma in this non-clinical community sample, the case for additional funding to increase access to quality mental health services for urban AI/ANs is justified. Access to culturally tailored mental health care through urban Tribal clinics or Indian health centers may contribute to increased wellness in urban AI/ANs of the Midwest region. For this sample, the losses associated with historical trauma were present and appeared to have an emotional impact, regardless of participants' distance from their reservations or from historical events. This finding is relevant when working

with urban AI/AN communities, who are more likely to be served by Western and non-indigenous medical and psychological providers. It is vital for non-indigenous providers to be aware of the contextual factors that may impact AI/AN health, both historical and present-day. Moreover, awareness about how AI/AN stressors are perpetuated through the same systems that are meant to address them is key in collaborating toward health equity with urban AI/AN communities.

Findings highlight the importance of mainstream health providers receiving appropriate professional training to meet the healthcare needs of urban AI/ANs in a culturally sensitive manner. Additional culturally relevant training for health providers may also contribute to positive health outcomes in these populations. Furthermore, investing in the education of AI/AN peoples to pursue professional healthcare careers may support their efforts in caring for their own communities. Interdisciplinary and integrated care including trauma-informed mental health and medical practitioners, and traditional indigenous practitioners may further contribute to the wellness of these populations. Collaboration among sanctioned indigenous healers, traditional medicine practitioners, and psychologists on the development of culturally tailored interventions to address mental health and healing in regards to historical losses, present day trauma, and substance abuse is suggested. Partnering with Tribes or specific AI/AN communities can enhance the development of successful health programs that are useful to these communities. Interdisciplinary efforts from psychology, medicine, social work, public health, and other relevant fields may also enhance health-promotion initiatives for multiple wellness aspects of urban AI/ANs. Additionally, psychological treatment modalities that involve group work are recommended given the collective nature of historical losses.



Based on findings regarding alcohol abuse prevailing over dependence, the promotion of harm reduction strategies may be more relevant to addressing alcohol abuse than abstinence models. However, this recommendation may be culturally contraindicated. Therefore, cultural considerations about the role of the spirit of alcohol for particular Tribes and AI/AN cultures are necessary in the development of any alcohol related intervention for urban AI/ANs (Duran & Duran, 1995). Findings regarding the impact of historical loss thoughts and its symptoms on cigarette use suggest the need to establish alternative interventions to assist AI/AN adults in coping with these stressors without cigarette use. Accessibility to mental health care and other resources for stress management such as traditional healing, yoga classes, meditation groups, etc. may assist in the replacement of substance use as a coping mechanism. Culturally tailored smoking cessation interventions for urban AI/ANs may support their capacity to successfully quit.

This study also has implications for social justice efforts of counseling psychologists. Advocacy toward reducing systemic barriers, including healthcare policies affecting AI/ANs, is encouraged. Utilizing academic and clinical privileges to highlight structural problems that influence the current economic and political circumstances of AI/AN peoples is encouraged. Partnering with other health service providers to increase health equity for urban AI/ANs is necessary given the multiple facets of wellness being affected. Disseminating these results with local AI/AN organizations may assist with the development of programs that address the needs of the urban community in this study.

### **Future Research**

Based on this study's findings regarding the prevalence of historical loss and its associated symptoms, further research on psychological interventions that address the emotional

impact of historical trauma is recommended. Future research that captures the role of cultural factors in healing from historical losses, as well as in coping with present day stressors such as discrimination, is also recommended. Moreover, research on culturally congruent interventions to address common psychological disorders such as depression, anxiety, and PTSD, among urban AI/ANs is deemed as necessary. Given the diversity among AI/AN groups, further research that captures the nuances these Pan-Indian communities encounter navigating worlds and multiple cultures in urban settings could assist in their wellness efforts. Research that explores how urban AI/ANs connect to their cultures when access to their Tribal communities is remote may be useful in supporting resources that facilitate the process of cultural revival.

Further understanding of the lower levels of nicotine dependence among urban AI/AN smokers and their smoking patterns may assist in developing more appropriate smoking cessation interventions that do not solely focus on managing nicotine withdrawal, as do nicotine replacement treatments (Burgess, Fu, Joseph, Hatsukami, Solomon, & van Ryn, 2007). Future research on the contextual and psychological factors, beyond cognitions, that influence alcohol abuse in urban AI/ANs is recommended. Future interdisciplinary research that supports the ongoing efforts of these communities to address disparities may highlight the survivance of these groups. Research that continues to disentangle the influences of proximal and distal stressors on urban AI/ANs is suggested. Furthermore, decolonizing research that explores the resilience and coping mechanisms of urban AI/ANs in the face of multiple stressors can shift the narrative from victims of colonization to survivors. Mixed method approaches that consist of both quantitative and qualitative methods are recommended to better capture the complexities of the factors impacting urban AI/AN health outcomes, while offsetting limitations of each research approach.

## Conclusion

The present study utilized quantitative methodology along with a community informed framework through collaboration with multiple urban AI/AN-serving organizations to empirically study proposed theoretical models to explain AI/AN health disparities. The results of this study documented the prevalence of historical loss and its associated symptoms in a sample of urban AI/AN adults living in the Midwest region of the U.S. The findings provided evidence for the impact of both the proximal stressor of perceived discrimination and the distal stressor of historical loss thoughts on the mental health outcome of historical loss associated symptoms. A significant impact of historical loss thoughts and historical loss associated symptoms on the health outcome of cigarette use was also detected. No direct connection appeared to exist between historical loss thoughts and health-promoting behaviors, or between historical loss thoughts and alcohol use. Historical loss associated symptoms appeared to negatively impact engagement in health-promoting behaviors. The psychosocial variables of ethnic identity, mainstream comfort, and social affiliation did not appear to significantly influence relationships between proximal/distal stressors and health outcomes.

The findings of this study have implications on the physical and mental health treatment of AI/AN adults living in urban areas of the Midwest. Findings highlight the importance of non-indigenous health providers having awareness of the contextual factors that may impact AI/AN health, both historical and present-day. It also signals the need for health providers to receive appropriate professional training to meet the healthcare needs of urban AI/ANs in a culturally sensitive manner. Interdisciplinary collaboration efforts from psychology, medicine, social work, public health, and other relevant fields may enhance comprehensive health-promotion initiatives to improve various wellness aspects of urban AI/ANs. Partnership with urban AI/AN

communities may enhance the development of successful health programs that are useful to these communities while supporting their sovereignty. The results of this study are expected to assist local agencies in the future development of programs that promote health equity in urban AI/AN populations living in the Midwest. The findings from this study may inform future health promotion work with urban AI/AN groups. Findings may also contribute to a greater understanding of historical trauma and its impact on urban AI/ANs.

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## Appendix A

### Community Grant Funding Notification Letter

# *Spirit of EAGLES*



September 30, 2014

Ms. Kathy Tyson  
3209 W Highland Blvd. Suit 200  
Milwaukee, WI 53208

Marcy Averill, Operations Director  
Mayo Clinic Spirit of EAGLES  
200 First Street SW  
Rochester, Minnesota 55905  
Phone: 507-266-3064 Fax: 507-266-2478  
Email: [averill.marcy@mayo.edu](mailto:averill.marcy@mayo.edu)  
[www.nativeamericanprograms.org](http://www.nativeamericanprograms.org)

Dear Ms. Tyson:

Congratulations! As we discussed by phone, your project was selected to be fully funded for the 2014-2015 Spirit of EAGLES Community Grant cycle. *Psychosocial Stressors Influencing the Health Outcomes of Urban American Indians in the Midwest* will be funded in the amount of \$4,468.56.

Within a couple of weeks, you will be contacted by Mayo Clinic Legal Contract Administration (LCA) to complete Conflict of Interest (COI) forms. Once the COI forms are finalized, you will be required to sign a subcontract that will be issued by Mayo Clinic and sent out to you. A purchase order (PO) number will be established for you and you will be able to begin invoicing us via Mayo Clinic Research Finance Distribution. An invoice template will be provided to you. We can help you to fill in the basics of the invoice, if necessary.

The subcontract process takes some time to complete, but anticipatory funding can be assumed upon notification that your project was selected for funding – so, you are encouraged to begin/continue work on your project without delay.

Grantees are *required* to submit invoices quarterly, along with progress reports that specifically detail the project costs. It is recommended that you invoice monthly – or as regularly as possible – as it is important to show spending progress as well as project progress.

Incremental progress reports will be required in the January and June time frames to be included in our overall grant's required 6-month and annual reports to our funding agency.

A final report is due within one month of the completion of the project period. Final payment will require a completed final report of the project.

All Community Grant **activities and spending must be completed before August 31, 2014.**

To allow time to process final payments, **all invoices must be submitted by September 30, 2014.**

(Since Dr. Rouse is also consulting on your grant, you may be already well-aware of her role.) Leah Rouse, Ph.D., serves as our Spirit of EAGLES Community Grant Liaison. As an additional resource for project mentoring and problem resolution, she will be in touch with you regularly to discuss your project and the Community Grant process.

In all ways possible, we would like to help you to complete your project successfully. Please feel free to contact us at any time with questions and/or concerns.

# Appendix B

## IRB Approval Letter



Department of University Safety & Assurances

Jessica Rice  
IRB Administrator  
Institutional Review Board  
Engelmann 270  
P. O. Box 413  
Milwaukee, WI 53201-0413  
(414) 229-3182 phone  
(414) 229-6729 fax

<http://www.irb.uwm.edu>  
[nicej@uwm.edu](mailto:nicej@uwm.edu)

### New Study - Notice of IRB Exempt Status

Date: March 4, 2015

To: Shannon Chavez-Korell, PhD  
Dept: Educational Psychology

Cc: Alina Aloma

IRB#: 15.261

Title: Psychosocial Stressors Influencing the Health Outcomes of Urban American Indians in the Midwest

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been granted Exempt Status under **Category 2** as governed by 45 CFR 46.101(b).

Your protocol has also been granted Level 3 confidentiality for Payments to Research Subjects per ASM Policy: 2.4.6

On **March 4, 2015**, this protocol was approved as exempt for a period of three years. IRB approval will expire on **March 3, 2018**. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the expiration date, please respond to the IRB's status request that will be sent by email approximately two weeks before the expiration date. If the study is closed or completed before the IRB expiration date, you may notify the IRB by sending an email to [irbinfo@uwm.edu](mailto:irbinfo@uwm.edu) with the study number and the status so we can keep our study records accurate.

Any proposed changes to the protocol must be reviewed by the IRB before implementation, unless the change is specifically necessary to eliminate apparent immediate hazards to the subjects. The principal investigator is responsible for adhering to the policies and guidelines set forth by the UWM IRB, maintaining proper documentation of study records and promptly reporting to the IRB any adverse events which require reporting. The principal investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

As Principal Investigator, it is your responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities which are independent of IRB review/approval (e.g., [FERPA](#), [Radiation Safety](#), [UWM Data Security](#), [UW System policy on Prizes, Awards and Gifts](#), state gambling laws, etc.). When conducting research at institutions outside of UWM, be sure to obtain permission and/or approval as required by their policies.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project

# Appendix C

## IRB Amendment Letter



Department of University Safety & Assurances

Jessica Rice  
IRB Administrator  
Institutional Review Board  
Engelmann 270  
P. O. Box 413  
Milwaukee, WI 53201-0413  
(414) 229-3182 phone  
(414) 229-6729 fax

<http://www.irb.uwm.edu>  
[ricej@uwm.edu](mailto:ricej@uwm.edu)

### Modification/Amendment Notice of IRB Exempt Status

**Date:** May 21, 2015

**To:** Shannon Chavez-Korell, PhD  
**Dept:** Educational Psychology

**Cc:** Alina Aloma

**IRB#:** 15.261

**Title:** Psychosocial Factors Influencing the Health Outcomes of Urban American Indians in the Midwest

After review of your proposed changes to the research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol still meets the criteria for Exempt Status under **Category 2** as governed by 45 CFR 46.101 subpart b, and your protocol has received modification/amendment approval for:

- Change in study title
- Extended the expected study end date to May 2016
- Clarified our relationship with Spotted Eagle, Inc. as fiscal manager and consultant
- Expanded the recruitment area from Wisconsin to the Midwest region
- Included UWM American Indian/Alaska Native students and faculty in target population
- Increased target participant number to 315
- Eliminated phone recruitment at Spotted Eagle, Inc.
- Minor revisions to consent form
- Minor modifications to demographic form
- Minor modifications to SEE- appendix F
- Minor revisions to recruitment material to reflect removal of phone recruitment, new project director and incorporate community feedback
- Changed community project manager from Ms. Kathy Tyson to Ms. Renee Zakhar

Unless specifically where the change is necessary to eliminate apparent immediate hazards to the subjects, any proposed changes to the protocol must be reviewed by the Institutional Review Board before implementation.

Please note that it is the principal investigator's responsibility to adhere to the policies and guidelines set forth by the University of Wisconsin – Milwaukee and its Institutional Review Board. It is the principal investigator's responsibility to maintain proper documentation of its records and promptly report to the Institutional Review Board any adverse events which require reporting. The principal investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

## Appendix D

### Community Feedback Request Letter

UWM Logo

Date \_\_\_\_\_

Dear \_\_\_\_\_

Hi! My name is Alina Alomá and I am a student in the doctoral program in counseling psychology at the University of Wisconsin-Milwaukee. I am contacting you in regards to a research project that I will be conducting this year for my doctoral dissertation. The project is titled: "Psychosocial Factors Influencing the Health Outcomes of Urban American Indians in the Midwest" and it was approved on 3/04/15 by the University of Wisconsin-Milwaukee's Internal Review Board (IRB# 15.261). This project is currently being funded by a community grant from the Spirit of E.A.G.L.E.S. American Indian/Alaska Native Leadership Initiative on Cancer at the Mayo Clinic # U54-CA153605-05 that was awarded to Spotted Eagle, Inc., who is serving as the fiscal agent for this project. The Project Director is Ms. Renee Zakhar (Spotted Eagle, Inc.) and she has reviewed this project and provided feedback, which has been incorporated to the attached materials. Attached, you will find the materials that will be utilized in this project (Attachment #1) and information about the grant (Attachment #2 and Attachment #3).

My research and clinical interests focus on reducing health disparities and improving the physical and psychological health of ethnic and racial minorities. The primary goal of this project is to better understand the possible relationship between historical trauma and the health outcomes (health-promoting behaviors, alcohol use, commercial tobacco use, historical loss associated symptoms) of AI/AN peoples that reside in urban areas. We will be seeking participation from 300 self-identified AI/AN adults primarily living in urban areas of the Midwest. The results of this project will be shared with our community partners and with your organization for your information and use as you see fit.

It is critical to get community feedback from Native serving agencies in the region. It would be an honor to have your input and collaboration on this project to ensure it meets the needs of the Native urban communities of this region. Therefore, I am kindly requesting your feedback on the attached Project Proposal (Attachment #1). I am asking members to review the packet and let me know if you have any comments, concerns, or questions about the project. We will consider your feedback in making revisions as necessary and resubmit changes to the UWM IRB before beginning the project. Our goal is to begin recruitment in April 2015 and complete the data collection process by December 2015.

I greatly appreciate your time and efforts in reviewing these materials. I have also included my contact information below. Please feel free to contact me at your earliest convenience with any questions or feedback.

Sincerely,

Alina Alomá, M.A., LPC  
Doctoral Candidate, Counseling Psychology  
Department of Educational Psychology  
University of Wisconsin-Milwaukee  
xxxxxx@uwm.edu

Attachments List

# Appendix E

## Recruitment Flyer

**Project Title:** Psychosocial Factors Influencing the Health Outcomes of Urban American Indians in the Midwest

- **What?** Inviting American Indian/Alaska Natives, 18 years or older, who primarily reside in urban/suburban areas of the Midwest to participate in a research project consisting of a confidential 20-minute written health survey.
- **Why?** American Indian/Alaska Native adults living off reservations or tribal lands have different experiences that may impact their health and wellbeing. In spite of the growth of Native populations living in cities, little is known about their experiences, needs, and challenges. This project will help increase understanding of the factors that may impact the health of American Indian/Alaska Natives living in urban areas. The findings will be shared with various local agencies to assist in the development of prevention and intervention programs that may contribute to the health and wellness of Native people living in urban areas.
- **Benefits?** In addition to contributing to the increased understanding of the health needs of urban American Indians, participants will receive a \$10 Wal-Mart gift card for their time and efforts toward completing all study materials.
- **Where?** Participants may stop by **Spotted Eagle, Inc.** (3209 W. Highland Blvd, Suite 200, Milwaukee, WI 53208) or by **Southeastern Oneida Tribal Services** (6811 W. Morgan Ave, Milwaukee, WI 53220) at designated dates and times to complete the survey. Other data collection sites/dates will be announced.
- **When?** The project will start in (*month*) and will last until (*month*).
- **How?** Contact the Student Principal Investigator for more info on project dates and times:
  - Ms. Alina Alomá, M.A., LPC
  - (414) xxx-xxxx
  - xxxxxxxx@gmail.com

- UWM IRB # 15.261
- Approval Date: 5/21/15

Funded by: Spirit of E.A.G.L.E.S.  
Grant # U54-CA153605-05

# Appendix F

## Community Recruitment Letter

UWM Logo

Date \_\_\_\_\_

Dear \_\_\_\_\_

Hi! My name is Alina Alomá and I am a student in the doctoral program in counseling psychology at the University of Wisconsin-Milwaukee. I am contacting you in regards to a research project that I am conducting this year for my doctoral dissertation. The project is titled: "Psychosocial Factors Influencing the Health Outcomes of Urban American Indians in the Midwest" and it was approved on 5/21/15 by the University of Wisconsin-Milwaukee's Internal Review Board (IRB# 15.261). This project is currently being funded by a community grant from the Spirit of E.A.G.L.E.S. American Indian/Alaska Native Leadership Initiative on Cancer at the Mayo Clinic # U54-CA153605-05 that was awarded to Spotted Eagle, Inc., who is serving as the fiscal agent for this project. The Project Director is Ms. Renee Zakhar (Spotted Eagle, Inc.). The Great Lakes Inter-Tribal Council and the Urban Indian Wellness Consortium had the opportunity to review the project prior to its start.

The project consists of a 20-minute confidential survey that ask participants to share information about their physical health, mental health and culture. We are seeking participation from 300 self-identified AI/AN adults primarily living in urban areas of the Midwest. The results of this project will be shared with our community partners.

Given the diversity within AI/AN peoples in the Midwest's urban areas, it is important to recruit participants at different settings and events to attempt to capture this diversity within our sample. Therefore, I am kindly requesting that you consider sharing information about this study with people who might be interested in participating or let me know of any upcoming events in your organization in which we may recruit participants for this project.

It would be an honor to have your collaboration in this project to ensure it meets the needs of the Native urban communities of this region. I have also included my contact information below. Please feel free to contact me at your earliest convenience with any questions or feedback.

Sincerely,

Alina Alomá, M.A., LPC  
Doctoral Candidate, Counseling Psychology  
Department of Educational Psychology  
University of Wisconsin-Milwaukee  
xxxxxx@uwm.edu  
(414) xxx-xxxx

# Appendix G

## Informed Consent

**Informed Consent**  
**UW - Milwaukee**

**IRB Protocol Number:** 15.261  
**IRB Approval Date:** 5/21/15

### **University of Wisconsin – Milwaukee Consent to Participate in Research**

**Study Title:** Psychosocial Factors Influencing the Health Outcomes of Urban American Indians in the Midwest

**Person Responsible for Research:** Student Principal Investigator: Alina Alomá, M.A. and Principal Investigator: Dr. Shannon Chavez-Korell

**Study Description:** American Indian/Alaska Native individuals living off reservations or tribal lands have different experiences that may impact their health and wellbeing. In spite of the significant growth of Native populations living in urban areas, little is known about the experiences, needs and challenges of these groups. The purpose of this research study is to explore different factors that may impact the physical and mental health of American Indian/Alaska Native adults that primarily live in urban areas. In order to participate, you must be at least 18 years of age, self-identify as an American Indian/Alaska Native, and primarily reside in an urban area (large city or smaller cities that form part of a larger metropolitan area) of the Midwest. Approximately 300 individuals will participate in this study. If you agree to participate, you will be asked to answer a questionnaire packet about your background history, physical health, mental health and current health behaviors. This will take approximately 20 minutes of your time. Upon completing the questionnaires, your obligation to the study has been met.

This project is currently being sponsored by a community grant from Mayo Clinic's Spirit of E.A.G.L.E.S. American Indian/Alaska Native Leadership Initiative on Cancer (U54-CA153605-05) awarded to Spotted Eagle, Inc.

**Risks / Benefits:** There are no costs for participating. Risks that you may experience from participating are minimal and may include experiencing uncomfortable feelings as you answer questions about your background history and health. If at any time you feel uncomfortable while answering the questions or do not want to continue, you may end your involvement with no repercussion. Benefits of participating include receiving a US \$10.00 Wal-Mart gift card for your time and efforts upon completion of all study measures. Additionally, you may experience positive feelings about having the opportunity to contribute to the knowledgebase of urban American Indian/Alaska Natives. Due to UWM policy and IRS regulations, we will be required to obtain your signature on a separate receipt form, in order to issue the payment (gift card) to you.

**Confidentiality:** The information you provide on the survey packet will be confidential, and no identifying information will be attached to your survey packet. The survey administrator will briefly review the packet upon completion to ensure no questions were missed by mistake. All information collected during the course of this study will be kept confidential to the extent permitted by law. No Spotted Eagle, Inc. staff will have access to the information collected from you. The combined results of this project will be presented to Spotted Eagle, Inc., Mayo Clinic- Spirit of E.A.G.L.E.S. program, and other community agencies in the region for their use as they see fit. We may also decide to present our findings to others at scientific conferences or publish our results in scientific journals. Data from this study will be saved on a password-protected computer and original documents will be stored in a locked filing cabinet and will be destroyed when the study is complete. Only Alina Alomá, M.A., Dr. Shannon Chavez-Korell, and trained research team members

will have access to your information. However, Mayo Clinic's Spirit of E.A.G.L.E.S. program, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

**Voluntary Participation:** Your participation in this study is completely voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision to participate will not change any present or future relationships with or services provided by the University of Wisconsin-Milwaukee, Spotted Eagle, Inc. or Mayo Clinic.

**Who do I contact for questions about the study:** For more information about the study or study procedures, please contact the Student Principal Investigator- Alina Alomá, M.A. at xxxxxx@gmail.com.

**Who do I contact for questions about my rights or complaints towards my treatment as a research subject?** Contact the UWM IRB at 414-229-3173 or [irbinfo@uwm.edu](mailto:irbinfo@uwm.edu).

**Research Participant's Consent to Participate in Research:**

*To voluntarily agree to take part in this study, you must be 18 years of age or older and give verbal consent. Your verbal consent indicates that you have read or had read to you this entire consent form, including the risks and benefits, have had all of your questions answered, you are 18 years of age or older and you voluntarily agree to participate.*



# Appendix H

## Demographic Questionnaire

<b>1. What is your age?</b>
<b>2. What is your gender?</b> <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender <input type="checkbox"/> Other: _____
<b>3. What is your current zip code?</b>
<b>4. Where do you currently live most of the time?</b> <input type="checkbox"/> Urban Area ( <i>city</i> ) <input type="checkbox"/> Suburbs ( <i>residential areas outside the city or smaller cities that form part of a larger metropolitan area</i> )
<b>5. For how long have you lived in this area?</b> _____ Years _____ Months
<b>6. Do you live in the United States or Sovereign Nations within those boundaries?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If no, where do you currently live?</b> _____
<b>7. What is your household's estimated income?</b> <input type="checkbox"/> Less than \$10,000 <input type="checkbox"/> Between \$30,000 and \$40,000 <input type="checkbox"/> Between \$10,000 and \$20,000 <input type="checkbox"/> Between \$40,000 and \$60,000 <input type="checkbox"/> Between \$20,000 and \$30,000 <input type="checkbox"/> Over \$60,000
<b>8. What is/are your Tribal Affiliation(s) or Native Heritage?</b> Tribe: _____ <input type="checkbox"/> Enrolled <input type="checkbox"/> Descendant Tribe: _____ <input type="checkbox"/> Enrolled <input type="checkbox"/> Descendant Tribe: _____ <input type="checkbox"/> Enrolled <input type="checkbox"/> Descendant Tribe: _____ <input type="checkbox"/> Enrolled <input type="checkbox"/> Descendant
<b>9. Do you identify as a member of any other racial/ethnic group?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If yes, list all racial/ethnic identities:</b> _____ _____ _____
<b>10. What languages do you speak?</b> 1) _____ <input type="checkbox"/> Know some words <input type="checkbox"/> Able to speak some <input type="checkbox"/> Fluent 2) _____ <input type="checkbox"/> Know some words <input type="checkbox"/> Able to speak some <input type="checkbox"/> Fluent 3) _____ <input type="checkbox"/> Know some words <input type="checkbox"/> Able to speak some <input type="checkbox"/> Fluent
<b>11. What is the highest level of education that you completed?</b>

**12. Did you attend a tribal or governmental boarding school?** Yes No  
**If yes, specify school name and years attended:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**13. Did any of your immediate or extended family members ever attend a tribal or governmental boarding school?** Yes No  
**If yes, please list who (mother, uncle, etc.):** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**14. Do you engage in any American Indian religious or spiritual practices?** Yes No

**15. Have you ever sought guidance or ceremony from a spiritual healer, traditional healer, or medicine person for physical health reasons?** Yes No

**16. Have you ever sought guidance or ceremony from a spiritual healer, traditional healer or medicine person for mental health/emotional reasons?** Yes No

**17. Have you ever been diagnosed with any of the following health conditions?**  
*\*Please mark Yes or No for each one.*

<b>Cancer-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Anxiety-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Diabetes-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Alcohol abuse-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Heart disease-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Bipolar-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>High blood pressure-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Depression-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>HIV/AIDS-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Drug abuse-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Liver disease-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Emotional problems-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Lung disease-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Panic Attacks-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Stroke-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Post-traumatic stress disorder-</b> <input type="checkbox"/> Yes <input type="checkbox"/> No

**18. How would you describe your current physical health?**  
Very poor Poor Fair Good Very Good

**19. How would you describe your current mental/emotional health?**  
Very poor Poor Fair Good Very Good

**20. Are you aware of your specific indigenous diet?** Yes No

**21. Do you eat an indigenous diet?**  
Never Sometimes Often Routinely

**22. Have you ever been a victim or witness to any of the following?**  
**Armed robbery-** Yes No  
**Attempted homicide-** Yes No

**Domestic violence-** Yes No

**Physical assault-** Yes No

**Sexual assault-** Yes No

**23. What factors are currently contributing (positively or negatively) to your health?**

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**24. What are your thoughts about or experiences with traditional health practices?**

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**25. What are some traditional health practices that you have engaged in so far?**

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# Appendix I

## Community Resources Sheet

<p><b>Alcoholic Anonymous Milwaukee Area</b> 7429 W. Greenfield Ave, West Allis, WI 53214 24-hr line: (414) 771-9119 www.aamilwaukee.com <i>Information about local AA meetings</i></p> <p><b>American Indian Council on Alcoholism</b> 3515 S. 68<sup>th</sup> St, Milwaukee, WI 53220 Phone: (414) 671-2200 <i>Alcohol and other drug (AODA) services</i></p> <p><b>Gerald L. Ignace Indian Health Center</b> 1711 S. 11<sup>th</sup> St, Milwaukee, WI 53204 Phone: (414) 383-9526 ext. 300 www.milwaukeeindianhealthcenter.net <i>Mental health counseling, medical, and AODA services including 12-step program and talking circles</i></p> <p><b>IMPACT Alcohol and Drug Abuse Services</b> 611 W. National Ave, Ste. 230, Milwaukee, WI 53204 Phone: (414) 256-4808 www.impactinc.org <i>Assessment of drug and alcohol problems, and connection with appropriate AODA treatment</i></p> <p><b>Indian Council of the Elderly</b> 3126 W. Kilbourn Ave, Milwaukee, WI 53208 Phone: (414) 933-1401 <i>Culture-specific nutritional and social activities</i></p> <p><b>Milwaukee Women's Center</b> Phone: (414) 272-6199 24-hr line: (414) 671-6140 <i>Domestic violence assistance and shelter</i></p> <p><b>Milwaukee Vet Center</b> 7910 N. 76<sup>th</sup> St, Milwaukee, WI 53223 Phone: (414) 434-1311 <i>Counseling, guidance, and support for veterans</i></p> <p><b>National Council on Problem Gambling Helpline</b> 24-hr line: 1-800-522-4700 www.ncpgambling.org <i>Information and help for gambling problems</i></p> <p><b>National Domestic Violence Hotline</b> 24-hr line: 1-800-799-SAFE (1-800-799-7233) www.thehotline.org <i>Advocacy, information, and safety planning services</i></p>	<p><b>National Sexual Assault Hotline</b> 24-hr line: 1-800-656-HOPE (1-800-656- 4673) www.rainn.org <i>Crisis counseling, information, support and help for sexual assault survivors</i></p> <p><b>Substance Abuse and Mental Health Services Administration (SAMHSA) Helpline</b> 24-hr line: 1-800-662-HELP (1-800-662-4357) www.samhsa.gov/find-help/national-helpline <i>Referral information services for individuals facing mental health or substance abuse problems</i></p> <p><b>Siggenauk Center</b> 1050 W. Lapham Blvd, Milwaukee, WI 53204 Phone: (414) 672-6989 <i>Food and clothing bank for American Indian families</i></p> <p><b>Sixteenth Street Community Health Centers</b> 2906 S. 20<sup>th</sup> St, Milwaukee, WI 53215 Phone: (414) 672-1353 <i>Medical, HIV, and mental health counseling services for uninsured, underinsured and insured individuals</i></p> <p><b>Spotted Eagle, Inc.</b> 3209 W. Highland Blvd, Suite 200, Milwaukee, WI 53208 Phone: (414) 342-0706 <a href="http://www.spottedeagle.us">www.spottedeagle.us</a> <i>Job-seeking assistance, career counseling, and other vocational services</i></p> <p><b>Suicide Prevention Lifeline</b> 24-hr line: 1-800-273-TALK (1-800-273-8255) www.suicidepreventionlifeline.org <i>Connection with crisis counseling center in your area</i></p> <p><b>The Healing Center</b> 130 W. Bruce St, Suite 400, Milwaukee, WI 53204 Phone: (414) 671-4325 www.thehealingcenter.org <i>Free mental health counseling services for adult female and male survivors of sexual abuse</i></p> <p><b>Wisconsin Tobacco Quit Line</b> Phone: 1-800-QUIT-NOW (1-800-784-8669) www.wiquitline.org <i>Telephone coaching and 2 weeks of free smoking cessation tools (nicotine patches, gum, lozenges)</i></p>
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# CURRICULUM VITAE

## Alina Alomá

Email: alina.aloma@gmail.com

### Education

- Doctor of Philosophy, Educational Psychology with Specialization in Counseling Psychology (*APA Accredited*), University of Wisconsin-Milwaukee, August 2016
  - **Dissertation Title:** Exploring Proximal and Distal Psychosocial Stressors Influencing the Health Outcomes of Urban American Indians in the Midwest
- Master of Arts with Honors, Concentration in Mental Health Counseling (*CACREP Accredited*), Rollins College, May 2006
- Bachelor of Arts, Major in Psychology & Minor in Criminal Justice, University of Central Florida, December 2002

### Languages

- English
- Spanish

### Professional Licenses and Certifications

- National Register for Health Service Psychologists, In Progress
- Wisconsin Licensed Professional Counselor, No.4915-125, 2012-Present
- Florida Licensed Mental Health Counselor, No.MH-10120, 2009-Present
- National Certified Counselor, No.213034, 2006-Present

### Pre-doctoral Clinical Experience

- Doctoral Psychology Intern, Hamm Memorial Psychiatric Clinic (*APA Accredited*), 2015-2016
- Advanced Practicum Doctoral Student, Sixteenth Street Community Health Centers, 2012-2015
- Advanced Practicum Doctoral Student, Aurora Health Care- The Healing Center, 2014-2015
- Advanced Practicum Doctoral Student, Marquette University Counseling Center, 2011-2012

### Post-master's Clinical Experience

- Mental Health Therapist, Orlando Health- HIV Program, 2007-2011
- Private Mental Health Practitioner, Private Practice, 2007-2011

### Pre-master's Clinical Experience

- Graduate Intern, University of Central Florida Counseling Center, 2005-2006
- Practicum Intern, The Grove Counseling Center, 2005

### Clinical Supervision Experience

- Professional Counseling Post-Master's Licensure Clinical Supervisor, Sixteenth Street Community Health Centers, 2014-2015
- Pre-Master's Clinical Supervisor, University of Wisconsin-Milwaukee, 2013

### Teaching Experience

- Co-Instructor, Community and School Counseling Master's Program, Department of Educational Psychology, University of Wisconsin-Milwaukee, 2012
  - Counseling Theory and Issues
  - Group Counseling Theory
  - Multicultural Counseling
- Instructor, Department of Educational Psychology, University of Wisconsin-Milwaukee, 2011-2012
  - Planning your Major and Career Undergraduate Course

### Consultation Experience

- Reducing Barriers to Accessing Clinical Services for Spanish Speaking Clients Consultation Project, Hamm Memorial Psychiatric Clinic, 2016
- Culturally Tailored Career Binder for AI/ANs Consultation Project, Spotted Eagle, Inc., 2014

### Research Projects

- Adding PCMOS to an Existing Standard of Care, Hamm Memorial Psychiatric Clinic, 2015-2016
- Exploring Proximal and Distal Psychosocial Stressors Influencing the Health Outcomes of Urban American Indians in the Midwest, University of Wisconsin-Milwaukee, 2014-2016
- S.T.A.R.T. to T.R.U.S.T., University of Wisconsin-Milwaukee, 2014-2015
- Smoking Cessation through Clinical Hypnosis: Strengthening Our Minds, Our Bodies, Our Future, University of Wisconsin-Milwaukee, 2013-2015
- Examining Psychosocial Factors and University Campus Climate as Experienced by College Students of Color, University of Wisconsin-Milwaukee, 2012-2015

### Research Grants

- Spirit of E.A.G.L.E.S., American Indian/Alaska Native Leadership Initiative on Cancer Community Grant, 2014-2015, Awarded by Mayo Clinic to Spotted Eagle, Inc., Grant Amount \$4,468.56, 2014-2015

### Publications

- Chavez-Korell, S., **Alomá, A.**, López, M., Benson-Florez, G., & Reinders-Saeman, R. (In Progress). Examining the relationships between perceived health competence, locus of control, spirituality, and help-seeking among Latino adults.
- **Alomá, A.** (2016). Lost and redefined in translation: Providing linguistically congruent care in medical settings. *Grand Rounds Newsletter of the Association of Psychologists in Academic Health Centers*, 4(1), 23-25.
- **Alomá, A.**, Lira, E. N., & López, M. (2013). Commercial Tobacco Use and Smoking Cessation for American Indian Communities. *Prevention and Health Promotion: Research, Social Action, Practice and Training*, 6(2), 16-26.
- Hunt, J., **Alomá, A.**, Lira, E. N., Wohlers, H., López, M., & Sapp, M. (2013). Attitudes Toward Patients with a Mental Illness: A Comparative Analysis of Stigma in Counseling Students and Nursing Home Care Providers. *The Wisconsin Counseling Journal*, 27, 37-51.
- **Alomá, A.**, (2012-2013) Editor of 5 editions of CPSA Today, the Counseling Psychology Student Association's Newsletter. *University of Wisconsin-Milwaukee*.

### Professional Conference Presentations

- Sy Washington, F., **Alomá, A.**, Saadiq Saoud, Q., & Hernandez Beithon, N. (2016). Decentering Whiteness: Navigating, Nurturing and Sustaining Environments for Practitioners of Color. *NASW-MN Conference*.
- Sapp, M., Del Ponte, M. Benally, N., DePratt, T., **Alomá, A.**, Lira, E., Gill, E., Rouse, L., & Tianna, B. (2015) Hypnosis and Weight Loss: Multicultural Applications. *APA Convention*.
- Sapp, M., Gill, E., Benally, N., DePratt, T., Del Ponte, M., **Alomá, A.**, Lira, E., & Rouse, L. (2015) Hypnosis and Postmodernism: Multicultural Applications. *APA Convention*.
- **Alomá, A.**, Leon, E., & Salas-Pizaña, S., (2014). Translating Campus Climate Research into Action: Implications and Social Justice for Latino College Students and Students of Color. *NLPA Biennial Conference*.
- **A Alomá, A.**, Lira, E. N., López Flores, M., Leon, E., Salas-Pizaña, S., & Altamirano, L. (2014). Factors Influencing Attitudes Toward Seeking Psychological Help in Latina/o Adults. *NLPA Biennial Conference*.
- López Flores, M., **Alomá, A.**, Lira, E. N., Reinders, R., Lewis, A., & Kern, L. (2014). College Students of Color Ethnic Identity Profiles' Influence on Social Connectedness and Campus Climate Views. *NLPA Biennial Conference*.
- Chavez-Korell, S., López Flores, M., Reinders-Saeman, R., Kern, L., Lira, E. N., **Alomá, A.**, León, E., Lewis, A., Salas-Pizaña, S., & Altamirano, L. (2014). Examining Campus Climate, Microaggressions, Campus Connectedness, Ethnic Identity, and Stress among College Students of Color. *NLPA Biennial Conference*.

- **Alomá, A.,** DePratt, T., Leon, E., Lira, E. N., Del Ponte, M., Rouse Arndt, L., Sapp, M. & Powless, M. (2014). Development of a Culturally-Tailored Smoking Cessation Hypnosis Script for an American Indian Community. *APA Convention.*
- DePratt, T., **Alomá, A.,** Quant, M. B., & Lira, E. N. (2014) Cultural Influences on Health Behaviors and Perceptions of Hypnosis by African American Adults. *APA Convention.*
- Sapp, M., DePratt, T., Leon, E., Lira, E. N., **Alomá, A.,** Del Ponte, M., Quant, M. B., & Hunt, J. (2014). Hypnosis, Automaticity, and African American College Students. *APA Convention.*
- Reinders, R., Chavez-Korell, S., López, M., & **Alomá, A.** (2014). Latino Health Beliefs. *APA Division 17 Counseling Psychology Conference.*
- **Alomá, A.,** Reinders, R., López, M., & Lira, E. N. (2014). Perceived Health Competence, Spirituality, and Locus of Control's Influence on Latina/o Attitudes Toward Seeking Psychological Help. *Teachers College Winter Roundtable Conference.*
- Lira, E. N., Jackson, L., **Alomá, A.,** & Altamirano, L. (2014). Influence of Campus Climate and Racial/Ethnic Microaggressions on Students' of Color Perceived Stress. *Teachers College Winter Roundtable Conference.*
- Hunt, J., **Alomá, A.,** Lira, E., DePratt, T., Quant, M., Del Ponte, M., & Sapp, M. (2013). Integrating Hypnosis into Early Intervention and Screening of Injured Trauma Survivors. *APA Convention.*
- Quant, M., **Alomá, A.,** DePratt, T., Lira, E., Hunt, J., Del Ponte, M. & Sapp, M. (2013). Hypnotic Susceptibility of Diverse Inpatient Adolescents. *APA Convention.*
- Rouse Arndt, L. M., Powless, M., Sapp, M., **Alomá, A.,** Lira, E. N., DePratt, T.M., Quant, M., & Del Ponte, M. (2013). Smoking Cessation Using Hypnosis in a Native American Sample. *APA Convention.*
- Sapp, M., Chien, L. C., **Alomá, A.,** Lira, E., et al. (2013). Item Analysis and Reliability of the Harvard Group Scale of Hypnotic Susceptibility in an African American Sample. *APA Convention.*
- Tassara, M., **Alomá, A.,** Lira, E., & López, M. (2012). The Development of Student-Led Spanish Speaking Consultation and Support Groups. *NLPA Biennial Conference.*
- **Alomá, A.,** Lira, E., DePratt, T.M., Quant, M., Fallon, O. & Sapp, M. (2012). Medical Providers' Perceptions of Hypnosis in the Treatment of Latinos with Type 2 Diabetes. *APA Convention.*
- DePratt, T.M., **Alomá, A.,** Lira, E., Fallon, O., Quant, M. & Sapp, M. (2012). Investigating Hypnosis: Increasing Health Behaviors in Very Overweight African American Adults. *APA Convention.*
- Quant, M., **Alomá, A.,** Lira, E., DePratt, T.M., Fallon, O. & Sapp, M. (2012). Adlerian Hypnosis as a Therapeutic Intervention for In-Patient Adolescents. *APA Convention.*

#### Other Professional Presentations

- González, C. & **Alomá, A.** (2015). They wanted to bury us, but they did not know we were seeds: How to identify and address stress among LGBTQ minorities. *El Colegio Charter School.*
- **Alomá, A.** (2015). Smoking Cessation Consultation in Primary Care. *Sixteenth Street Community Health Centers.*
- **Alomá, A.** (2007). Positive Parenting for Children with ADHD. *Orlando CHADD Parent Support Group.*
- Blecha, C. & **Alomá, A.** (2006). Cinematherapy: Real Women Have Curves. *UCF Counseling Center.*
- **Alomá, A.** & Wilkins, M.C. (2006). Self-Discovery Knights: He's Just Not That into You. *UCF Counseling Center.*
- **Alomá, A.** & Mauer, C. (2005). Knight Advice: Overcoming a Breakup. *UCF Counseling Center.*

#### Honors

- National Psychologist Trainee Register Credentialing Scholarship, National Register of Health Service Psychologists, 2015
- National Health Service Corps Mental Health Provider, U.S. Department of Health and Human Services, 2013-2015
- Advanced Opportunity Program Fellow, University of Wisconsin-Milwaukee, 2012-2015
- Teacher's College Winter Roundtable Student Poster Scholarship, Columbia University, 2014
- Chancellor's Graduate Student Award Recipient, University of Wisconsin-Milwaukee, 2011-2013
- Graduated with Honors, M.A. Counseling, Rollins College, 2006
- Chi Sigma Iota Counseling Honor Society Active Member, Rollins College, 2004-2006

### **Service**

- Conference Reviewing Committee, National Latina/o Psychological Association, 2016
- Clinical Outcomes Research Committee, Hamm Memorial Psychiatric Clinic, 2015-2016
- Cultural Responsiveness Committee, Hamm Memorial Psychiatric Clinic, 2015-2016
- Access Committee, Sixteenth Street Community Health Centers, 2014-2015
- Officer & Newsletter Editor, Counseling Psychology Student Association, University of Wisconsin-Milwaukee, 2012-2013
- Team Captain, AME Team, AIDS Walk Wisconsin, 2013
- Team Captain, CPSA Team, AIDS Walk Wisconsin, 2012
- Student Representative, Master's in Counseling Program, Rollins College, 2005-2006

### **Professional Affiliations**

- Native Research Network, 2015-Present
- Association of Psychologists in Academic Health Centers, 2015-Present
- Society of Behavioral Medicine, 2014-Present
- National Latina/o Psychological Association, 2012-Present
- American Psychological Association, 2011-Present
  - Divisions: 12, 17, 30, 32, 35, 38, 44, 45
- National Board for Certified Counselors, 2006-Present