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The Impact Of Historical Trauma On Alcohol Use And Academic Outcomes In American Indian College Students

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THE IMPACT OF HISTORICAL TRAUMA ON ALCOHOL USE AND ACADEMIC
OUTCOMES IN AMERICAN INDIAN COLLEGE STUDENTS

by

Elizabeth Luger
Bachelor of Science, University of North Dakota, 2010
Master of Arts, University of North Dakota, 2015

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

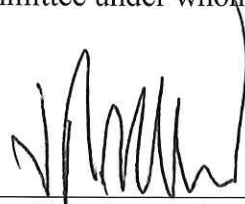
in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, ND
December
2019

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



Justin Douglas McDonald



Thomas Petros



Alan King




John Paul Legerski



Birgit Hans

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



Chris Nelson
Dean of the School of Graduate Studies

12/2/19
Date

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Elizabeth Luger
December 19, 2019

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To all Native people. To my grandparents, my aunts, uncles, cousins and the fathers in my life. To my sisters, Lexi, Chelsey and McCall who are there for me 24/7. To my nieces and nephews.

To Eller, who has always made me feel loved and supported.

To my mom, Dr. Donna Brown, a legend. Thank you for making this possible.

To my daughters, Ellia and Eliza. Let this work be a reminder that you, too, can do difficult things. I love you.

ABSTRACT

Issues regarding substance use, particularly alcohol use, and academic outcomes are two factors that are vital to examine when researching the quality of life and academic success of American Indian (AI) college students. Because AI college students comprise a relatively small percentage of the general college population, the majority of research conducted using college student samples tends to focus on Caucasian (CA) subjects or all ethnicities combined – neither of which directly pertain to furthering understanding surrounding issues specific to AI college students. One factor that has been shown to predict alcohol use among AIs is historical trauma, which is mass trauma inflicted on a specific group of people and which is carried through to subsequent generations, even if those subsequent generations did not directly experience the initial trauma. Whether or not these findings are applicable toward understanding academic outcomes in AI college students is questionable. Additionally, it is unknown if AI college students attending a tribal college might experience historical trauma differently and thus manifest alcohol use and academic outcomes differently than AI college students attending a public university. Data was collected from 89 total AI college students; 49 attended a four-year predominantly White public university and 40 attended a two-year tribal college. Information was gathered on demographics, historical trauma, alcohol use and academic outcomes to examine how historical trauma impacts alcohol use and academic outcomes and if any differences between the two subsamples were found. It was hypothesized that historical trauma thoughts and feelings mediate AI college student

group status and both alcohol use and academic outcomes. Statistically significant mediations between these variables were not found. However, statistically significant associations were found between AI college student group status and sense of school belonging whereby the AI tribal college students reported a sense of school belonging significantly more than AI students from the four-year institution. Additionally, an inverse relationship between historical trauma feelings and sense of school membership was found, whereby the less historical trauma feelings felt, the more likely the student felt as though they belonged to their academic institution. Implications for these findings were discussed.

CHAPTER I

INTRODUCTION

Substance abuse and academic performance at the post-secondary level are serious issues worth addressing within the American Indian (AI) population. Historical trauma has been shown to negatively impact health outcomes such as substance abuse, including alcohol use and yet there are no studies to the author's knowledge that address the relationship between historical trauma and its impact on academic outcomes within the AI sub-population of college students. Whether or not historical trauma has an influence on academic performance in American Indian college students is yet to be examined. Furthermore, the extent to which current location may influence day-to-day levels of historical trauma experienced is also yet to be examined. More specifically, in an effort to remain cognizant of the many differences between distinct AI populations, it is important to find out if historical trauma is experienced differently depending on location (i.e. on-reservation tribal college attendee or off-reservation public institution attendee). In this work, there are two AI college student samples: University of North Dakota (UND) students and White Earth Tribal and Community College (WETCC) students. Since problematic substance abuse and academic outcomes are two prominent issues that can drastically alter the life courses of anyone including AI people, it is important to examine these issues and factors that influence these issues, such as historical trauma. In sum, because academics are an integral part of being a college

student, it is important to examine how and if AI students A) experience historical trauma and B) if and to what extent historical trauma impacts their alcohol consumption and academic performance.

Historical Trauma

Current psychological impairments in AI populations, including behavioral health problems such as substance use, cannot be discussed without taking the unique history of America's Indigenous people into consideration. It has been suggested that one possible explanation for the problematic use of alcohol consumption in AI populations is due to historical trauma (Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013). It is important to acknowledge that no one single agreed upon definition of historical trauma exists.

Historical trauma is a complex concept for multiple reasons including that it is nuanced for various populations (e.g. Jewish populations, American Indian populations, etc.).

Additionally, since the very ideas of what constitutes wellness and illness are sociologically and contextually determined, it is important to consider who derives and expands upon the concept. For instance, further understandings of what historical trauma is can come from the populations of the people who are thought to have or suffer from historical trauma, academicians, or perhaps people who fall into both categories. The concept of historical trauma is widely thought to first be articulated by Oglala Lakota social work researcher, Maria Yellow-Horse Brave-Heart, as a hybrid of psychological trauma and historical oppression (Hartmann & Gone, 2014). From an Indigenous perspective, historical trauma has and continues to be important to understand health discrepancies known to exist in AI people in the context of wider historical events, beginning with colonization. To not have this broader understanding has dangerous

consequences of viewing AI people as inherently at fault for these health discrepancies and possibly equally as devastating, missing an imperative part of the conversation when considering preventative or intervening options aimed at improving health outcomes for AI people. Various perspectives on historical trauma, which typically have considerable overlap, enrich the evolving understanding of the concept.

Historical trauma has been defined as trauma resulting from events such as mass genocide, oppression, victimization or group trauma exposure inflicted on a collective group of people and carried through to subsequent generations (Mohatt, Thompson, Thai, & Tebes, 2014). Mohatt et. al (2014) theorize historical trauma as consisting of three primary aspects: 1.) the trauma, or wounding, itself; 2.) this trauma is shared by a collective group of people; and 3.) the trauma spans multiple generations. Expanding on the second aspect, unlike post-traumatic stress disorder (PTSD), historical trauma is characterized by its shared aspect, rather than being experienced on solely an individual level. Emerson et al., (2017) found that indeed there is an association in AI people between a diagnosis of PTSD and alcohol use disorders. But again, it is important to emphasize that while certainly related, PTSD and historical trauma are two distinct concepts. Expanding on the third aspect of Mohatt et al.'s (2014) three part conceptualization, the trauma spans multiple generations, such that future generations who were not present when the initial traumas occurred still may experience trauma-related symptoms. Evans-Campbell (2008) have further described historical trauma as a collective experience of trauma, spanning multiple generations, on the part of one group of people where the inflictors of said trauma are a separate group of people with a distinct identity. A variety of factors, including forced placement in boarding schools, genocide,

ethnic cleansing, and subsequent loss of traditions, are all considered to be potential precursors of historical trauma and have led to enduring states of psychological distress (Whitbeck, Adams, Hoyt, & Chen, 2004).

As has been discussed, there are important ties between historical trauma and health outcomes. Research has shown that a possible contributor to current AI alcohol consumption revolves around historical trauma. The relationship between AIs and substance use is complicated. For any given person who identifies as AI, there are many factors that contribute to the initiation and maintenance of substance use or not to use and why. Ehlers et al. (2013) conducted a study in which they attempted to find out the extent to which substance dependence, mood disorders, conduct disorder, and PTSD influenced the frequency of thoughts of historical trauma. Sixty-six percent of the AI participants in the study reported a diagnosis of substance dependence at some point in their lifetime (Ehlers et al., 2013). Individuals who endorsed a diagnosis of substance dependence reported significantly higher levels of the extent to which they experienced thoughts about historical loss and associated negative feelings (Ehlers et al., 2013). These results indicate that historical trauma is a critical influence to consider when attempting to understand the high rates of alcohol use disorders in AI populations.

Just as there is no one single definition of historical trauma and the concept itself continues to be refined, understandings surrounding how historical trauma manifests in people living today continues. Epidemiological research examining adverse childhood experiences (ACES), advocated by Robert Anda, PhD, has shown that ACES have striking positive correlations with adverse health outcomes. ACES are said to include physical abuse, sexual abuse, emotional abuse, physical neglect, emotional neglect,

exposure to domestic violence, household substance abuse, household mental illness, parental separation or divorce and incarcerated household members (Making the Case, 2019). Adverse health outcomes include but are not limited to alcoholism and alcohol abuse, smoking, obesity, teen and unintended pregnancies, depression, anxiety, suicide attempts, intimate partner violence and poorer quality of life. These conditions have an impact on biological, emotional and cognitive systems. In fact, there is a dose response relationship between ACES and adverse health outcomes whereby the more ACES one has experienced, the more adverse health outcomes they are likely to experience (The Adverse Childhood Experiences Study: Child Abuse and Public Health, n.d.). Note that Anda and colleagues' work discussed here is a large-scale epidemiological study including a socio-demographically representative sample of American people. Though there are obvious ties here with firsthand trauma, what is remarkable about the ACES study is that the more ACES one reports, the more adverse health outcomes one is likely to experience and furthermore, the more vulnerable people who suffer from ACES' children are to being victims of ACES themselves, and so on. There is a distinctive intergenerational component here, much like historical trauma. There is clearly some convergence in these two concepts.

Walls and Whitbek (2012) conducted a study that examined 10-12 year-old AI youth and their mothers from several US reservations and Canadian reserves. They found that the grandparent-generation forced to relocate not only had significant direct and indirect effects on the grandparent-generation themselves but on their families generations after (Walls & Whitbek, 2012). Again, historical trauma is conceptualized as being impactful on an individual level *and* on a community level with impacts continuing

for generations beyond the initial trauma. Using the wisdom of traditional Indigenous views regarding the interconnectedness of different aspects of wellness, it is no surprise that historical trauma can manifest today on an individual level via thoughts, feelings, biological/cellularly and spiritually. Furthermore, each aspect of these manifestations can impact the other aspects.

Alcohol Use

Though information regarding alcohol use in the nuanced population of AI college students is limited, what is known about alcohol use in AI populations of non-college students as well as alcohol use among college students in general leads to definite concerns.

But First, A Critical Word Regarding AI Populations

The AI population within the United States could be divided into the more than 500 federally recognized and unrecognized tribes, clustered into groups by region (e.g. Northern plains, Southeast, Southwest, etc.), or grouped into one large population. Due in large part to complications regarding who constitutes as AI and what groups people are interested in, a complete and comprehensive study on the epidemiology of AI drinking is thought to be a virtually impossible task (Caetano, Clark, & Tam, 1998; Moran, 2002). Therefore, estimating AI levels of alcohol use as a whole is incredibly complex. For the purposes of research, dividing each of these groupings has pros and cons. The external validity of many studies done up until this point have often been met with criticism because they only include one or two AI tribes or locations (Akins, Mosher, Rotolo, & Griffin, 2003; Beauvais & La Boueff, 1985). Critics of these types of studies assert they offer limited knowledge about AI alcohol use in a broader sense. And yet, the same can

be said about studies that include broad AI populations with no nuance- the applicability of furthering tribe-specific understandings may be compromised. There is rich diversity within AI peoples. Along with different tribes, all of whom possess unique languages, cultures, histories, belief systems, etc., there are differences in location. To illustrate this concept, consider a Lakota man born and raised on the Standing Rock reservation likely has a very different lived experience than a Lakota man born and raised in San Francisco, i.e. an off-reservation metropolis, or vice-versa. Regardless of what population is included, A.) the acknowledgement of this inclusion is necessary, and B) it is up to the reader to think critically about the implications of the results given the specific nature of the study at hand.

Estimations of Alcohol Use and Binge Drinking: Broader AI Population

In terms of the general population, more Caucasians (CAs) endorse being current drinkers than AIs. Between 2001-2002, the National Institute on Alcohol Abuse and Alcoholism (NIAAA; 2006) reported that approximately 47.8% of AI adults aged 18 and above were current drinkers (i.e., drank alcohol in the past 30 days), whereas 59.8% of CA adults were current drinkers. However, some studies have suggested that of the AIs who endorse current drinking, there is a trend to consume alcohol in problematic ways, such as drinking larger quantities per occasion (NIAAA, 2006; Spillane, 2007). A 5/4 sex-specific gender demarcation is used to define binge drinking, i.e, the consumption of five or more drinks in one sitting (i.e. within a few hours), if male, or 4 or more drinks within one sitting (i.e. within a few hours) if female (Johnston, O'Malley, Bachman, & Schulenberg, 2010; Weschler & Nelson, 2001). Robin, Long, Fasmusses, Albaugh, and Goldman (1998) did research with a Southwest tribe and looked at binge drinking

behavior. They found the binge drinking rate to be 62.9% in men and 24.9% in women (Robin et al., 1998). Moreover, perhaps not surprisingly, the work in their sample revealed that alcohol dependence occurs in a high rate of binge drinkers over 97% of male binge drinkers and over 91% of female binge drinkers qualified for alcohol dependence (Robin et al., 1998). Additionally, alcohol dependence occurred at rate of 26% and 55% among male and female non-binge drinkers, respectively (Robin et al., 1998).

Comparing more than one tribe can also offer a lot of information. Spicer et al. (2003) did that by looking at the prevalence of alcohol dependence in two culturally and geographically distinct tribes: Northern Plains (NP) and Southwest (SW). They found that men in both of these regions had lifetime rates of alcohol dependence that were 50% higher than the national population (Spicer et al., 2003). Unlike the men, they found differences between the women, where AI women in the NP sample had alcohol dependence rates that were twice as high as the rates of the national sample, but SW women had drinking rates that were by and large the same as the national sample (Spicer et al., 2003). All groups together, rates of alcohol dependence in these tribes were higher than the US averages, particularly for the NP tribes. Again, when looking at research that attempts to extract prevalence of alcohol rates in AI samples, it is important to think carefully about all components of the study, particularly when contemplating the generalizability, or lack thereof, and the implications.

Estimations of Alcohol Use among College Students

Problematic college student alcohol use is a serious public health issue (Hingson & Zha, 2009; Task Force of the National Advisory Council on Alcohol Abuse and

Alcoholism, 2002). Though exact rates differ, a variety of sources report similar trends, whereby a large majority of college students drink and a high percentage of those drinkers engage in binge drinking. It has been estimated that approximately 80-85% of college students have used alcohol at some point during their college career and that around 40-45% of college students in the United States could be classified as binge drinkers (Wechsler et al., 2000; Wechsler et al., 2001). Johnston et al. (2010) have reported similar rates, finding that over a one month period, approximately 66% of all college students reported drinking alcohol and approximately 37% reported binge drinking. Yet another report estimated around 50% of American college students to be binge drinkers (New Casa* Report Finds: Half of College Students Binge Drink, Abuse Prescription and Illegal Drugs, 2007). Donovan, Wood, Frayjo, Black, & Surette (2012) point out that it is not the alcohol consumption in and of itself that tends to be the problem but rather the negative consequences college students routinely face as a result. Such negative consequences include, but are not limited to, unintentional and intentional injury to self or others, risky, violent, or non-mutual sexual behavior, blacking out, and poorer academic performance (American College Health Association [ACHA], 2011; Berkowitz & Perkins, 1986; Werner & Greene, 1992).

Despite knowing the concerning rates of alcohol use, binge drinking rates and consequences of alcohol use for the general college student population, rates for AI college students remain somewhat elusive. A small literature base is helping uncover this information. In a groundbreaking study called the College Alcohol Study (CAS) from the Harvard University School of Public Health, Ward and Ridolfo (2011) gathered information on several substances, including alcohol, in a nationally representative

sample of AI college students. They found that 82.47% of their AI college student sample reported using alcohol in the past year, 65% reported being a current drinker (i.e. drinking alcohol at some point within the past 30 days), and 40.84% reported binge drinking. These rates appear to be similar to rates of the general college student population drinking.

The author's thesis turned out somewhat similar results, though less comprehensive and somewhat more limited than the Ward and Ridolfo (2011) study as the thesis gathered information from only one university. The thesis compared AI and CA past six month drinking, (which was determined by calculating the product of the typical quantity of drinks consumed per month and the typical frequency of alcohol consumption per month in the last six months), and revealed no significant differences between the two groups. However, contrary to the original hypothesis, past month drinking, (which was determined by calculating the product of the typical quantity of drinks consumed per week and the typical frequency of alcohol consumption per week in the last month), was found to be significantly higher in the CA group than in the AI group (Luger, Thesis, 2015). This study found that overall, alcohol use rates between AI college groups and CA/general population college groups tend to be similar.

Another study looked at AI and Alaska Native (AN) college student drinking, specifically examining the "firewater myth," which contests that AI people are more vulnerable to alcohol dependence on account of a biological or genetic basis (Gonzalez & Skewes, 2016). The authors argue that this myth is pseudo-science with potential harmful implications for AI people, particularly if they have a preconceived notion that they are more likely to develop an alcohol problem if they use alcohol. For example, belief in this

myth can trigger the limit violation effect, which occurs when self-imposed alcohol use limits have been exceeded, which often brings about negative affect and in turn leads to more drinking (Collins, 1993). This is kind of self-fulfilling prophecy. While the study by Gonzalez and Skewes (2016) did not find any significant associations between belief in the firewater myth and drinking behavior, it did find that 71% of their AI/AN participants felt a sense of guilt for consuming 5 or more drinks on a single occasion.

Returning to ties between historical trauma and important quality of life factors in AI populations, research has demonstrated clear links between historical trauma and substance abuse, however, the impact historical trauma has on academic outcomes in AI college student populations is less understood. It is critical to continue to examine how historical trauma impacts day to day life of AI people today including how it effects issues related to substance use and academic outcomes.

Academic Outcomes

American Indian people have historically faced barriers to attaining a higher education degree at predominantly White institutions. Some of these barriers include high drop-out rates of high schoolers, inadequate preparation for college, cultural differences, limited financial resources, fears about leaving the reservation and loneliness and homesickness (Brown, 2002; Boyer, 1998; Stein, 1988; Tierney & Wright, 1991). In addition, due to the era of boarding schools, AI people have often had a general mistrust of United States educational systems from K-12 through post-secondary education.

From the beginning, tribal colleges and universities have addressed the problems of financial aid limitations, cultural isolation, and family considerations (Brown, 2002).

Tribal colleges and universities were established to meet the higher education needs of AI

people, particularly those living in geographically isolated areas such as Indian reservations. The first tribal college, Dine' College, was established in 1969 and recently celebrated its 50th year of existence. There are currently 38 fully accredited tribal colleges in 17 states. Tribal colleges and universities have become fundamental and indispensable to their communities. They aim to meet the workforce needs of their communities. AI students thrive in environments that foster Native culture, languages, and traditions. Even the physical environment reflects AI culture. Regardless of how modest the facilities may be, students see their culture and tribal identity in the buildings, signs, and décor (DeLong, Monette, & Ozaki, 2016). Because of tribal colleges, many Native people are earning tribally grounded educations (Winn, 2019).

This being recognized, once the barrier of entering college is passed, retention then becomes the next major obstacle. The University of North Dakota's (UND) American Indian Student Services (AISS) Annual Report showed that the number of officially enrolled AI college students at UND in the fall of 2015 was 236 and by spring of 2016, that number fell slightly to 218. These enrollment numbers for AI college students can be thought of as general trends for UND with similar numbers in relatively recent years past and expected similarities in years to come. What is perhaps even more telling than these numbers is that by the spring of 2016, there were only 75 AI graduates of UND (American Indian Student Services 2015-1016 Annual Report). Considering the numbers that enroll and the amount of non-AI UND graduates each semester, this is low. Many factors, including the ones just listed and going further back into the boarding school era, contribute to the current difficulties AI people face surrounding obtaining a higher education degree.

For college students as a whole, regardless of ethnicity, the association between alcohol consumption and performance in school is concerning (Aertgeerts & Buntinx, 2002). Heavy drinking has been suggested as a possible contributor to student attrition from college (Martinez, Sher, & Wood, 2008) and as previously reported, alcohol use has been negatively linked to academic performance (Berkowitz & Perkins, 1986). For college freshman, problems commonly experienced because of alcohol use include poor academic achievement as well as skipping classes (Werner & Greene, 1992). Heavy episodic drinkers are more likely than non-heavy drinkers to report that drinking caused them to do poorly on tests and other school-related projects, miss class and generally fall behind in their schoolwork (Presley & Pimentel, 2006; Wechsler, Lee J.E., Kuo, & Lee H., 2000).

There are several ways to measure student success in college. Cumulative grade point average is one simple but important way of measuring academic success. Additionally, students' subjective sense of feeling as though they are a part of their school, i.e., school belonging or membership, has been identified as an important influence on academic outcome predictors such as motivation, engagement, and participation, particularly among groups of students who are at risk of attrition (Goodenow & Grady, 1993). These are all considered to be crucial ways to gather evidence regarding AI college student academic performance.

Study Hypotheses

Exploratory analysis will be conducted to examine similarities or differences between UND AI college students and WETCC AI college students on demographic data, historical trauma, alcohol use and academic outcomes. As the topic relates to sense

of school membership, UND AI students were asked to report their experiences regarding the now retired Fighting Sioux logo and controversy. Six hypotheses were tested. 1.) Historical trauma thoughts mediate the relationship between AI group and past six month alcohol use; 2.) historical trauma feelings mediate the relationship AI group and past six month alcohol use; 3). historical trauma thoughts mediate the relationship between AI group and GPA; 4.) historical trauma feelings mediate the relationship between AI group and GPA; 5.) historical trauma thoughts mediate the relationship between AI group and sense of school belonging and 6.) historical trauma feelings mediate the relationship between AI group and sense of school belonging.

CHAPTER II

METHODS

Participants

A sample of 89 total AI college students who were at least 18 years old participated in this study. Forty-nine students came from the University of North Dakota (UND) and 40 students came from White Earth Tribal and Community College (WETCC). AI status was self-identified.

Participants at UND were recruited via a booth at American Indian Student Services (AISS) on campus during Soup Friday events, lunch gatherings that generated a lot of traffic at AISS. Prior to participating in the study, all participants read and signed an informed consent agreement outlining the nature of the study and all data the researcher sought to obtain. Students recruited at AISS were compensated with \$15.00 for participating in the study. Participants completed the study via pen and paper with a qualified administrator at a designated time and location on campus. Some UND students were also recruited via Qualtrics and completed the informed consent and the study online. These students were compensated with Sona credit to use toward their classes.

Participants at WETCC were recruited via a booth in the commons area of their college. Again, prior to participating in the study, all participants read and signed an informed consent agreement outlining the nature of the study and an explanation of all

data the researcher sought to obtain. WETCC students were also compensated with \$15.00 for participating in the study. Participants completed the study via pen and paper with a qualified administrator at a designated time and location on campus.

Institutional Review Board (IRB) approval was obtained on Oct. 11, 2016 from UND's IRB, prior to the collection of any data. Additionally, the designated WETCC representative as well as the standing president of WETCC approved this study prior to the collection of any data from any students at WETCC.

Measures

Demographics

Participants were asked to provide data on their age, sex, the city and state from which they reside, and if they have ever lived on a Native American reservation. If they answered yes to having lived on a reservation, they were asked to provide the name of the reservation. This was done to help ensure that responders were being honest about their AI background. They were also asked what year in college they were in, including graduate school. Participants were asked what institution they were enrolled in at the time of completing the survey— either WETCC or UND. Participants were also asked if they had attended any institutions prior to their current, and if so what type of institution it was (e.g. public, private or tribal). They were asked to denote all ethnicities that make up their ethno/racial background. They were asked to select which ethnicity they primarily identified with, which should be Native American/American Indian/Indigenous. It is anticipated that some participants will identify with multiple ethnicities, though participants were instructed to select the one ethnicity that they *primarily* identified with. To get a better understanding of socioeconomic backgrounds, participants were asked if

their parents or guardians were currently employed and if so to name their parents' job titles. Participants were also asked if they were currently receiving financial aid and/or scholarships and if finances presented a challenge for them to attend college. Lastly, participants were asked how often they attended AI traditional ceremonies, how strongly they identified with AI culture and if they felt that their respective institution supported their culture and traditions.

Alcohol Use

A brief survey regarding alcohol use was given that assessed for quantity of use, frequency of use, and binge drinking. This is a measure created by the author, using questions widely used in alcohol use literature. Respondents were asked if they had ever used alcohol, and if so, the approximate age they were when they first drank alcohol. They were asked if they had consumed alcohol in the last month. If so, they answered three subsequent questions, including: the average amount of days that they drink per week (frequency), the average amount of drinks consumed per drinking occasion in the last month (quantity), and approximately how many days in the last month they drank 5 or more drinks (if male) or 4 or more drinks (if female) in one sitting in the last month (i.e., binge drinking). A past month drinking composite score was determined by calculating the product of the typical quantity of drinks consumed per week and the typical frequency of alcohol consumption per week in the last month. Participants were also asked if they had consumed alcohol in the last six months. If yes, they were asked to answer three subsequent questions, including: the average amount of days that they drank per month (i.e., 0-30) in the last six months (frequency), the average amount of drinks consumed per drinking occasion in the last six months (quantity), and approximately how

many days per month they drank 5 or more drinks (if male) or 4 or more drinks (if female) in one sitting in the last six months (i.e., binge drinking). A past six month drinking composite score was determined by calculating the product of the typical quantity of drinks consumed per month and the typical frequency of alcohol consumption per month in the last six months. Past six month drinking composite scores will be used in the mediational analyses and this time frame has been used with AI college students in previous literature (Ward & Ridolfo, 2011). Lastly, they were asked if they had any family members whom they subjectively believed has or ever has had a problem with alcohol use, and they were asked to note how that family member is related to them.

Historical Trauma

Two scales developed for the measurement of historical trauma in AI populations were included. These scales, developed by Whitbeck et al. (2004), include the Historical Loss Scale and the Historical Loss Associated Symptoms Scale. The Historical Loss Scale assessed for the frequency of *thoughts* pertaining to historical loss and consisted of 12 items which were answered on a 6-point Likert scale ranging from “Never” to “Several times a day.” An item example includes “Loss of our family ties because of boarding schools.” This scale had a Chronbach’s alpha coefficient of .92. A historical trauma thoughts composite score was derived by summing up the frequency of thoughts and dividing that number by 12 (total number of items on the measure).

The Historical Loss Associated Symptoms Scale assesses for *feelings* directly associated with thoughts regarding Historical Loss. In this respect, noise in the data is avoided because if respondents were simply asked about anxiety, depression, etc. unrelated to the thoughts about historical trauma, they may report such symptoms

although the etiology could be determined a number of different things (i.e. current circumstances indirectly related or completely unrelated to thoughts about historical trauma). This scale also consisted of 12 items which are answered on a 5-point Likert scale ranging from “Always” to “Never.” The directions preceding the questions on the Historical Loss Associated Symptom Scale read, “Now I would like to ask you about how you *feel* when you think about these losses.” An example of an item from this scale includes “Feel like avoiding places or people that remind you of these losses.” This scale was found to have a Chronbach’s alpha coefficient of .89. A historical trauma feelings composite score was derived by summing up the frequency of feelings related to historical trauma and dividing that number by 12 (the total number of items on the measure).

Academic Outcomes

The Psychological Sense of School Membership (PSSM) measure, developed by Goodenow and Grady (1993), was used to gauge participants’ sense of belonging toward their college. This scale consisted of 18 items which were answered on a 5-point Likert scale ranging from “Not at all true” to “Completely true.” Wording on some of the questions have been altered slightly from the original so as to be more applicable to a college student. An example of an item from this scale includes, “People here notice when I’m good at something.” At (.88), the PSSM’s internal reliability has been shown to be acceptable across diverse samples (Dinh, et. al., 2008). Items 3, 6, 9, 12 and 16 were reverse coded. A sense of belonging composite score was derived by summing up the items on this measure and dividing the sum by 18 (the total number of items on this measure).

For UND students to answer only, six additional items created by the author were added which pertain to the university's previous logo- the Fighting Sioux. These items will be referred to as the Logo questions. An example of an item from this section includes, "The Fighting Sioux logo and mascot promotes negative racial stereotypes of American Indians." These items were answered on a 5-point Likert scale ranging from *Strongly Agree* to *Strongly Disagree*. AI UND students' sense of school membership may be affected by this issue so it was hoped that these additional questions would help clarify whether or not this is a likely possibility. Items 1, 3, 5 and 6 were reverse coded. Response percentages were analyzed and reported.

Participants were asked to self-report their cumulative grade point averages (GPAs) at the time they filled out the survey.

Procedure

First, participants signed an informed consent agreement. Next, they were told that they were to fill out a series of questionnaires to complete, which would take approximately 30 minutes total. They were told that they could stop participation at any time and there would be absolutely no consequences if they chose to do so. Participants were assured that all data would be protected and kept confidential. They were asked if they had any questions before they began. Finally, participants were compensated accordingly and asked if they had any final questions regarding the study post-completion.

Data Analysis

The first set of analyses were independent samples t-tests and looked at four different sections of variables: demographic data, historical trauma data, alcohol use and

academic outcomes to compare UND and WETCC students. Independent samples t-test were first used to compare demographic data.

The second analysis involved summing the Historical Loss scale, which measures thoughts associated with historical trauma, and then summing the Historical Loss Associated Symptom scale, which measures feelings associated with historical trauma, to create two overall composite scores. Here again, two independent samples t-tests were conducted to compare group differences between UND and WETCC college students regarding 1) frequency of thoughts associated with historical trauma and 2) frequency of emotional symptoms associated with historical trauma.

Third, various alcohol use data was compared using independent samples t tests, including a composite score of past month and past six month alcohol use. The alcohol use composite scores were derived by calculating the sum of the frequency times the quantity of alcohol consumed during the respective time frame.

Composite scores on the Psychological Sense of School Membership measure were summed and used to examine similarities or differences in subjective feelings of school belonging between UND and WETCC groups. Finally, each of the six Logo items were analyzed independently to see how students responded to each item. This data was looked at via percentage of students who responded at each point of the Likert scale used for the items (*Strongly Disagree* to *Strongly Agree*).

The second set of analyses included six mediational analysis. A *mediator* is defined as a variable that explains the relationship between a predictor and an outcome (Baron & Kenny, 1986; Holmbeck, 1997; James & Brett, 1984). Each of the following mediations were conducted using three regression analyses each. The first mediational

analysis tested the hypothesis that historical trauma thoughts is the link between AI college student group (UND or WETCC) and past six month alcohol use. The second mediation was used to test the hypothesis that historical trauma feelings mediate the relationship between AI college student group and past six month alcohol use. The third mediation was used to test the hypothesis that historical trauma thoughts mediate the relationship between AI college student group and grade point average (GPA). The fourth mediation was used to test the hypothesis that historical trauma feelings mediate the relationship between AI college student group and GPA. The fifth analysis was used to test the hypothesis that historical trauma thoughts mediate the relationship between AI college student group and student's perceived sense of school membership, measured by the Psychological Sense of School Membership (PSSM). The sixth and final mediational analysis tested the hypothesis that historical trauma feelings mediate the relationship between AI group and PSSM. Sobel's (1982) test of significance was used to determine the significance of the mediated effect, where the product of the coefficients of the mediated paths will be divided by their standard error to produce a z-score which will be compared to the standard critical z of 1.96 (Hayes, 2017).

Power Analysis

According to Fritz and MacKinnon (2007), with medium effects sizes, a sample of 90 is recommended for mediational analysis. A power analysis for the t-tests using G-Power with a medium effect size, $\alpha=.05$, and $\text{power}=.80$, yielded a recommendation of 53 participants per sample group.

CHAPTER III

RESULTS

Within the UND students who participated in the study, 8.3% were freshmen, 4.2% were sophomores, 27.1% were juniors, 33.3% were seniors, and 27.1% were graduate students. WETCC is a two year college, participants were asked to report their year in school on the same freshman-graduate scale as the UND students, and 56.4% reported being freshman, 38.5% reported being sophomores and 5.1% reported being seniors.

Independent samples t-tests were conducted on demographic data to compare and contrast WETCC and UND college student samples. Results from the independent samples t-tests showed that the average age for the WETCC group ($M = 32.05$, $SD = 12.02$) was significantly higher than the average age for the UND group ($M = 24.58$, $SD = 6.82$); $t(60.17) = -3.32$, $p < .002$. The total number of colleges attended was significantly higher for UND students ($M = 2.19$, $SD = 0.98$) than for WETCC students ($M = 1.5$, $SD = 0.73$; $t(50) = 2.53$, $p < .015$). UND students ($M = 1.14$, $SD = .354$) were more likely to report that their parent(s)/guardians(s) were currently employed than WETCC students ($M = 1.51$, $SD = .507$); $t(-3.805) = 61.137$, $p < .000$. There were no significant differences between the two groups on sex (UND $M = 1.69$, $SD = .468$; WETCC $M = 1.68$, $SD = .474$; $t(86) = .124$, $p < .902$) whether or not they were receiving financial aid or scholarships (UND $M = 1.14$, $SD = .354$; WETCC $M = 1.51$, $SD = .507$;

$t(75.45) = 1.508, p < .136$), whether or not finances presented a challenge for them to attend college (UND $M = 1.31, SD = .466$; WETCC $M = 1.28, SD = .456$; $t(86) = .243, p < .808$), how often they attended traditional American Indian ceremonies (UND $M = 2.61, SD = .837$; WETCC $M = 2.80, SD = .823$; $t(87) = -1.06, p < .188$) or how strongly they identified with American Indian culture (UND $M = 3.31, SD = .769$; WETCC $M = 3.10, SD = .632$; $t(86.99) = 1.39, p < .206$). (Table 1).

Table 1. Independent Samples T-tests Results for Demographic Data.

Measure	UND		WETCC		<i>t</i>	P
	M	SD	M	SD		
Age	24.58	6.82	32.05	12.02	3.32	.002*
Number of colleges attended	2.19	.98	1.5	.73	2.53	.015*
Parents currently employed (Yes/No)	1.14	.354	1.51	.507	61.137	.000*
Sex	1.69	.468	1.68	.474	.124	.902
Financial challenges (Yes/No)	1.31	.466	1.28	.456	.243	.808
Attendance of AI ceremonies	2.61	.837	2.80	.823	-1.06	-.188
AI culture identification	3.31	.769	3.10	.632	1.39	.206

Note. For parents currently employed and Financial challenges, Yes= 1 and No= 2. For Sex, Male= 1 and Female= 2.

* $p < .05$

Independent samples t-tests were conducted on historical trauma data to compare and contrast WETCC and UND college student samples. No statistically significant differences were found between the two groups on either amount of thoughts about historical trauma experienced (UND $M = 3.40, SD = 1.26$; WETCC $M = 3.63, SD = 1.124$; $t(86) = -.924, p < .358$) or feelings associated with historical trauma thoughts

(UND $M = 2.37$, $SD = .769$; WETCC $M = 2.58$, $SD = .709$; $t(86) = -1.296$, $p < .198$).

(Table 2).

Table 2. Independent Samples T-test Results for Historical Trauma Data.

Measure	<u>UND</u>		<u>WETCC</u>		<i>t</i>	P
	M	SD	M	SD		
Historical trauma thoughts	3.40	1.26	3.63	1.124	-.924	.358
Historical trauma feelings	2.37	.769	2.58	.709	-1.296	.198

* $p < .05$

Independent samples t-tests were conducted on alcohol use data to compare and contrast WETCC and UND college student samples. Results from the independent samples t-tests conducted found that there were statistically significant differences between UND and WETCC college students on two of these variables. One significant difference was for the endorsement of using alcohol at all within the past 6 months, where UND students endorsed “yes” more than the WETCC students. The second significant difference was that UND participants reported a significantly higher subjective report of the number of family members whom they believed to have a problem with alcohol than the WETCC participants. (Table 3).

Independent samples t-tests were conducted on academic information to compare and contrast WETCC and UND college student samples and two significant differences were found. The first significant difference between the two schools was whether or not students felt that their institutions supported their culture and traditions, where WETCC students reported feeling more supported than the UND students. The second was in the composite scores of the PSSM measure, where WETCC students felt a sense of school

membership/belonging at a significantly higher reported number than their UND peers.

There was no statistically significant difference between the two schools on self-reported cumulative GPA (Table 3).

Table 3. Independent Samples T-test Results for Alcohol and Academic Data.

Measure	UND		WETCC		<i>t</i>	P
	M	SD	M	SD		
Alcohol use ever (Yes/No)	1.02	.143	1.08	.267	-1.165	.249
Past month binge drinking	1.46	3.519	.86	1.782	.963	.339
Past month drinking composite	4.30	4.907	6.04	11.41	-.882	.382
Alcohol use past 6 months (Yes/No)	1.16	.373	1.43	.501	-2.742	.008*
Past 6 month binge drinking	2.67	1.911	2.33	1.90	.835	.406
Past 6 month drinking composite	19.48	22.79	23.26	49.42	-.436	.665
Number of family members with alcohol problem	3.53	2.467	2.21	2.157	2.381	.020*
Institutional support (Yes/No)	1.33	.474	1.05	.221	-3.315	.002*
PSSM Composite	3.43	.793	4.00	.750	-3.431	.001*
GPA	3.36	.475	3.20	1.03	.659	.516

Note. Binge drinking is measured by days per month. For Alcohol use ever and Alcohol Use past 6 months, Yes=1 and No=2. Past month drinking equals the product of the average quantity of drinks consumes per week in the last month and the average frequency of alcohol consumption per week in the last month. Past six month drinking equals the product of the average quantity of drinks consumed per month and the average frequency of alcohol consumption per month in the last six months.

* $p < .05$

Regarding the additional items addressing the Fighting Sioux logo, UND AI students responded to each of these six items on a 5-point Likert scale. Percentages corresponding to how each point on the Likert was endorsed can be found in Table 4.

Table 4. UND American Indian Student Responses to Fighting Sioux Logo Questions.

Items	Percentage Endorsed				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The Fighting Sioux logo and mascot promotes negative racial stereotypes of American Indians.	44.9%	16.3%	10.2%	12.2%	16.3%
2. The Fighting Sioux logo and mascot provides a sense of pride to American Indian students in the region.	14.3%	16.3%	22.4%	8.2%	38.8%
3. The Fighting Sioux logo and mascot are offensive.	34.7%	22.4%	6.1%	18.4%	18.4%
4. Traditions associated with the Fighting Sioux, such as chants, bring people together.	10.2%	20.4%	16.3%	18.4%	34.7%
5. The Fighting Hawks logo and mascot is more appropriate for the University of North Dakota.	36.7%	20.4%	14.3%	2.0%	26.5%
6. Because of the Fighting Sioux/Fighting Hawks logo and mascot controversy, I don't feel like I belong at UND.	14.3%	10.2%	24.5%	22.4%	28.6%

Six separate mediational analyses were done to examine the impact of historical trauma on alcohol use and academic outcomes in our AI college student samples. Due to age being significantly different between the two groups, in all of the following analyses, age was controlled for to avoid a confounding effect. That being said, mediational analyses were conducted to examine if historical trauma thoughts mediate the relationship between AI group (UND or WETCC) and past 6 month alcohol use. Regression analysis showed that the relationship between AI group and historical trauma thoughts was not significant. Regression analysis showed that the relationship between historical trauma thoughts controlling for AI Group and past 6 month alcohol use was not significant. Regression analysis showed that the direct relationship between AI group and past 6 month alcohol use was not significant. The z score calculation for this first mediation yielded a z score of -0.157, which was not significant (Figure 1).

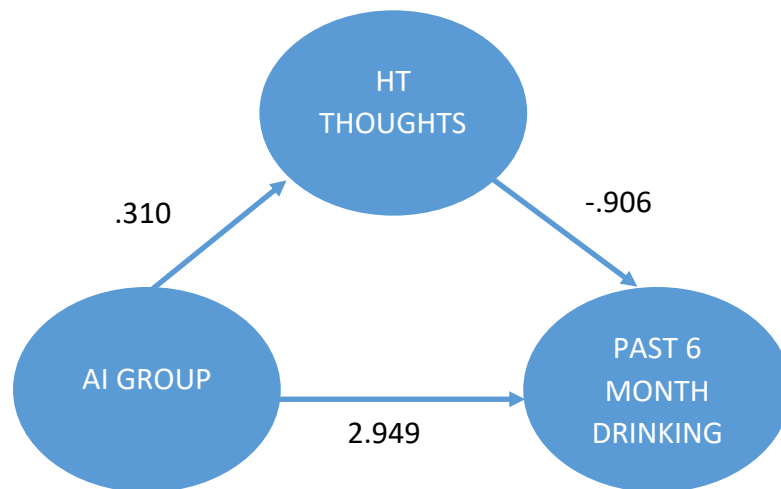


Figure 1. Mediation 1.

Mediational analyses were conducted to examine if historical trauma feelings mediate the relationship between AI group (UND or WETCC) and past 6 month alcohol use. Regression analysis showed that the relationship between AI group and historical trauma feelings was not significant. Regression analysis showed that the relationship between historical trauma feelings controlling for AI group and past 6 month alcohol use was not significant. Again, regression analysis showed that the direct relationship between AI group and past 6 month alcohol use was not significant. The z score calculation for this second mediation yielded a z score of -0.65 which was not significant (Figure 2).

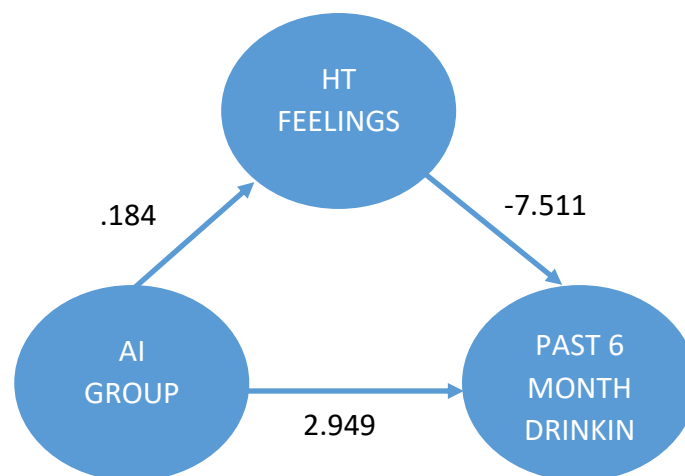


Figure 2. Mediation 2.

Mediational analyses were conducted to examine if historical trauma thoughts mediate the relationship between AI group (UND or WETCC) and GPA. Again, regression analysis showed that the relationship between AI group and historical trauma thoughts was not significant. Regression analysis showed that the relationship between historical trauma thoughts controlling for AI group and GPA was not significant. Regression analysis showed that the direct relationship between AI group and GPA was

not significant. The z score calculation for this third mediation yielded a z score of -0.435 which was not significant (Figure 3).

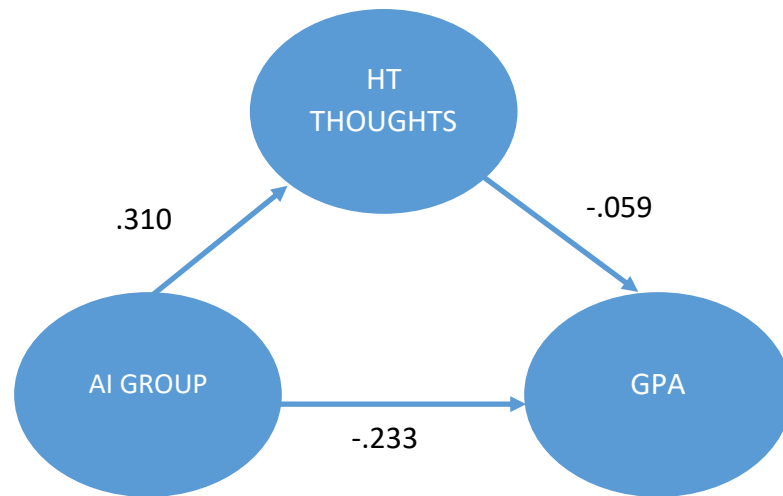


Figure 3. Mediation 3.

Mediational analyses were conducted to examine if historical trauma feelings mediate the relationship between AI group (UND or WETCC) and GPA. Again, regression analysis showed that the relationship between AI group and historical trauma feelings was not significant. Regression analysis showed that the relationship between historical trauma feelings controlling for AI group and GPA was not significant. Again, regression analysis showed that the direct relationship between AI group and GPA was not significant. The z score calculation for this fourth mediation yielded a z score of 0.004 which was not significant (Figure 4).

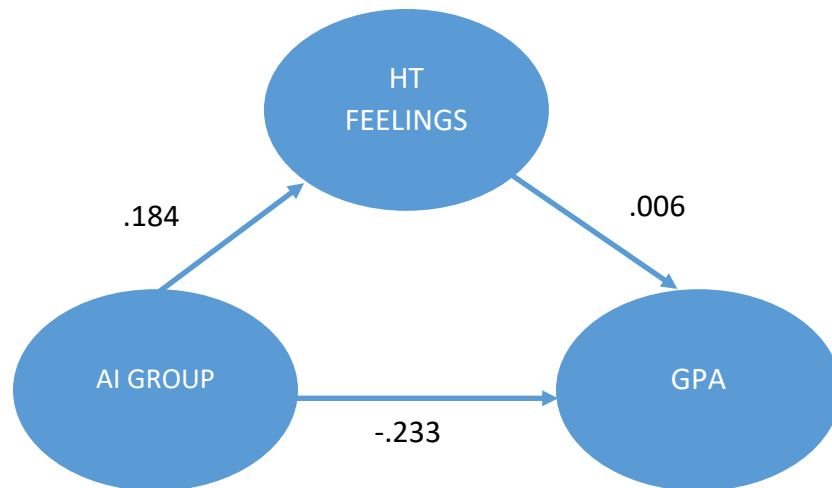


Figure 4. Mediation 4.

Mediational analyses were conducted to examine if historical trauma thoughts mediate the relationship between AI group (UND or WETCC) and sense of school membership. Again, regression analysis showed that the relationship between AI group and historical trauma thoughts was not significant. Regression analysis showed that the relationship between historical trauma thoughts and sense of school membership was not significant. Regression analysis showed that the direct relationship between AI group and sense of school membership was significant, meaning that changes in AI group are associated with changes in psychological sense of school membership. More specifically, as the AI group changed from UND to WETCC, scores on the PSSM went up, meaning WETCC student status is associated with feeling a greater sense of school membership than UND student status. The z score calculation for this fifth mediation yielded a z score of -0.485 which was not significant (Figure 5).

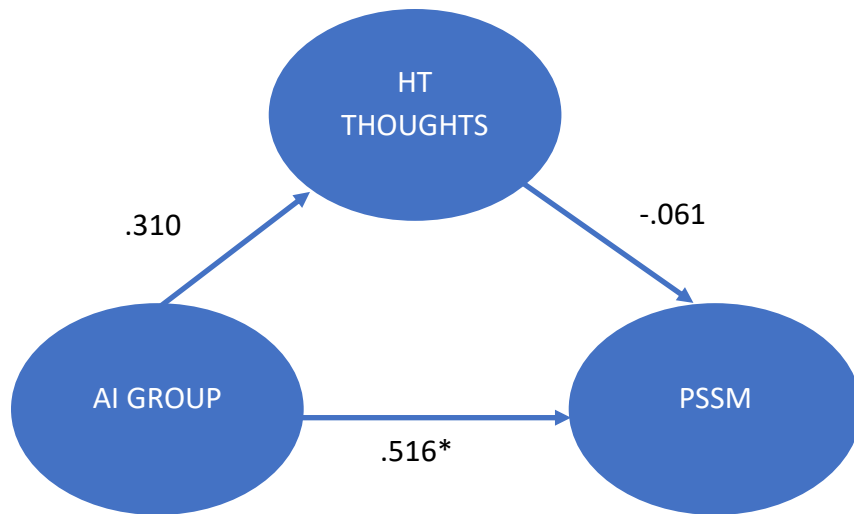


Figure 5. Mediation 5.

Mediational analyses were conducted to examine if historical trauma feelings mediate the relationship between AI group (UND or WETCC) and sense of school membership. Again, regression analysis showed that the relationship between AI group and historical trauma feelings was not significant. Regression analysis showed that the relationship between historical trauma feelings and sense of school membership was significant controlling for AI group, meaning that as historical trauma feelings go down, psychological sense of school membership comes up. Again, regression analysis showed that the direct relationship between AI group and sense of school membership was also significant, meaning that as the AI group changed from UND to WETCC, scores on the PSSM went up, meaning WETCC student status is associated with feeling a greater sense of school membership than UND student status. The z score calculation for this sixth and final mediation yielded a z score of -0.92 which was not significant (Figure 6).

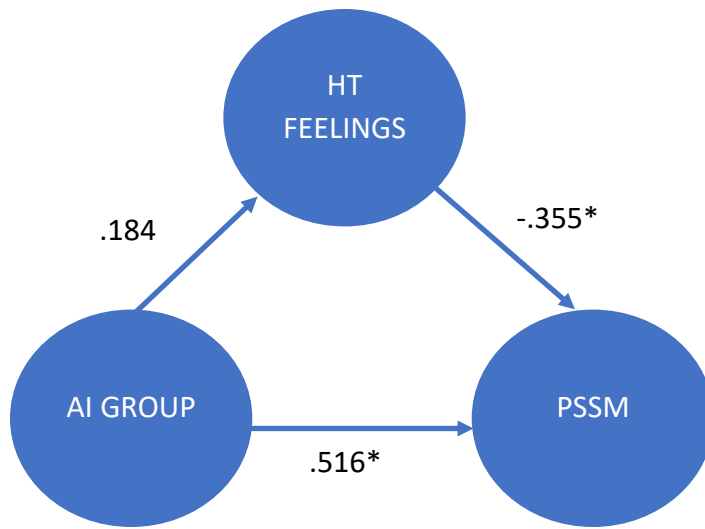


Figure 6. Mediation 6.

CHAPTER IV

DISCUSSION

It is helpful to understand both similarities and differences within the two AI sub-populations sampled for this study. Regarding demographics, on average, the WETCC students were older than the UND students. Often these students are starting or returning to college after other important life experiences, such as becoming parents or military service. Additionally, many of these students are first generation college students. That UND college students on average attended more colleges or universities suggests many of these students are transfer students, often coming to a four-year institution from a tribal college. This sheds light on the important role that tribal colleges play in the long-term trajectory and success of their students. UND students were more likely to report that their parents were currently employed, which makes sense given that this group was younger. For a number of the WETCC students, for example, their parents may have already retired prior to starting college. This implies that AI students, regardless of type of institution, require specialized attention to help them feel they belong in higher education, to help academic success and to curb attrition. It was equally compelling to observe the many similarities between the two groups, particularly regarding socioeconomic statuses, mainly that both groups tended to endorse finances as

a challenge in attending college and that many of them in both groups were receiving some kind of financial aid or scholarships.

Regarding historical trauma, as no statistically significant differences were found between the two groups on either historical trauma thoughts or feelings, it was telling that each group, on average, does experience some level of historical trauma thoughts and associated feelings, again highlighting a similarity between these two groups.

Regarding alcohol use, more UND students endorsed past six month drinking, which makes sense given that WETCC students are older and UND students are part of a dominant society college culture whereby drinking is the norm. UND students also reported a higher amount of family members who they believe had a problem with alcohol. While the exact reasons for this are unknown, it could be UND students have different perceptions of what constitutes a “problem with alcohol” than their WETCC counterparts. Again, it was revealing that on most alcohol variables, including drinking quantities and frequencies, there were no significant differences between the two groups, suggesting these two groups are comparable in many ways in terms of alcohol use, however with a few differences as described.

Regarding academic information, there was no statistically significant difference in terms of GPA between the groups, however, the WETCC students reported they their institution supported their culture and traditions more than UND students and according to the PSSM, felt a greater sense of school belonging. This could be because tribal college settings, particularly WETCC, make great effort to support the students, including serving meals on a regular basis, small staff to student ratios, offering language classes, and being understanding of life circumstances. Even the atmosphere of the college is

culturally welcoming. Native students at WETCC enjoy tribal values written in their Indigenous language in a large, open, circular communal gathering space. The impact of this type of welcoming atmosphere can not be underestimated.

By contrast AI students at UND likely have more varied experiences, including as this data suggests, feelings of not being a part of their school as much as the WETCC students. In some ways this might be perplexing, as UND has had a dedicated AISS staff as well as multiple thriving Indian Related Programs (IRPs). And in other ways, this lack of belonging AI UND students feel makes sense to some degree, given a combination of different factors. For one, even though the Fighting Sioux logo has officially been retired and has changed to the current mascot of the Fighting Hawks, the campus and broader community is still recovering from the Fighting Sioux logo and mascot controversy. Many people are still resistant to have the logo changed and therefore still wear and support the Fighting Sioux logo. Data from AI UND students regarding this issue were revealing, such that the majority of UND students polled endorsed either *Agree* or *Strongly Agree* to the question “The Fighting Sioux mascot and logo promotes negative racial stereotypes of American Indians.” Also, about one fourth of AI students at UND endorsed *Strongly Agree* or *Agree* to the question, “Because of the Fighting Sioux/Fighting Hawks logo and mascot controversy, I don’t feel like I belong at UND.” That statement is strong and the number of students that feel this way is alarming, particularly considering that the Fighting Sioux logo had been retired for approximately five years at the time that this data was collected. Additionally, UND is a relatively large university, and people in general can feel a sense of anonymity, but likely even more so if you are an ethnic minority.

Most of the relationships tested between the independent (AI Group) and dependent variables (historical trauma thoughts, historical trauma feelings, past six month alcohol use, GPA, and psychological sense of school membership) were not found to be statistically significant. Possibly there are too many factors involved in AI college student alcohol use whereby historical trauma is unable to reliably predict use. Similarly, aside from some issues concerning relying on participants to self-report GPA, historical trauma may be part of what can predict GPA, but not necessarily the full picture. AI college students inherently have some kind of fortitude and resolve to surpass many challenges faced. Perhaps in this specific population, despite experiencing historical trauma, there are other intervening factors that still allow students to put forth effort into studies. There were, however, two significant relationships found: AI group was able to predict sense of school membership and historical trauma feelings were able to predict school membership. As mentioned earlier, in line with previous research, AI tribal college students are fortunate to learn in an environment that strives to preserve culture and support the nuanced challenges that AI college students face. This creates a great distinction between UND versus WETCC college students between how much they feel as they belong to their college, which was apparent in the data collected here. Furthermore, historical trauma feelings predicted psychological sense of school membership. It is possible that since both of these measures were tied to feelings, a relationship was more easily detected. Furthermore, it is possible that the less welcoming a climate is, in this case UND campus to AI students, the more feelings of historical trauma are brought up, thus negatively impacting sense of school belonging.

The mediational analyses testing historical trauma thoughts and feelings as mediators between AI group and the dependent variables of past six month alcohol use, GPA and sense of school membership were not found to be significant. Of all of the variables examined with this subset of AI students, where they attended college and sense of belonging had some of the strongest associations. That is, where an AI student is attending college, their experienced sense of feelings associated with historical trauma, and their sense of school belonging are tied in important ways.

There are limitations to the current study. First, only two of hundreds of possible AI subpopulations were examined here. Though results from this study provide information which is possible to extend to the broader AI population, it is important that definitive conclusions about other AI groups not be drawn. Furthermore, this study examined college students, which is a very specific subset of any cultural group. There are obvious generalizability limitations, as AI people who have not attended college were not included as part of this study. While this study's sample size displayed acceptable power, challenges with obtaining participation proved the issue of sample size to be difficult to contend with. A final limitation of note involves an academic outcome measure used- GPA. For this study, self-reported GPA was relied on, though there could have been issues regarding reporting the correct GPA such as not remembering their GPA, feeling embarrassed to disclose GPA, a desire to impress and therefore falsely report GPA, etc. Also, some respondents did not include their GPA at all, similarly, this could have been due to GPA being sensitive information and/or trouble with participant recall when asked for their cumulative GPA on the spot.

It is possible to go in many directions for future research regarding this and associated topics. Future research could strive to further AI population inclusivity to be tribe or region-specific. For example, including multiple tribal colleges, expanding to other AI regions (e.g. Southwest). Or, alternatively depending on the aims of the study, broadening the sample even further to be more generalizable. A need for understanding historical trauma in AI communities continues, and it is vital to consider AI people not in college as well. It may be useful to compare historical trauma in college and non-college students as a potential barrier for pursuing higher education. Also, including other cultural groups to compare historical trauma experienced could be particularly illuminating, particularly considering the similarities found in this study between the two AI college student samples in historical trauma. For example, how does experienced historical trauma in AI samples compare to those of Southeast Asians, African Americans, mixed-race populations and so forth.

This study utilized composite scores for the Historical Loss (thoughts) and Associated Symptoms (feelings). Examining specific items may be helpful in understanding if some hold more weight than others. Not only is it useful to understand the extent to which historical trauma impacts behavioral health outcomes in AI people but furthermore, how to treat and/or prevent the continued problems that occur as a result of historical trauma. Digging into the interplay between ACES and historical trauma could be helpful in improving our understanding of these variables in marginalized populations, such as the AI population, whom we know often experience more negative health consequences compared to other races.

This research suggests more work could be done understanding AI students' sense of school belonging and related factors, as well as the implications of these factors. It could be valuable to use the sense of school membership as a mediating factor between AI groups and GPA, for example. These data also suggest, at least for AI students attending UND, careful consideration is warranted regarding how accepted they feel on campus. It is not enough for these inclusionary responsibilities to solely rest on the shoulders of the IRPs, the broader UND campus community including administration needs to also become involved in putting forth effort to recognize, value and welcome the AI students attending UND.

Additionally, alcohol use and academic outcomes are only two of many possible behavioral health issues to research. Beyond careful consideration of expanding and/or refining the samples used, future research could also look at other behavioral outcomes, including the presence or absence of other illnesses or diseases as well as different types of substance use (e.g. opioids). In line with community-based participatory research, it could be useful to consult with AI communities directly to identify outcomes they self-identify as problems and that they see as being the most important to investigate. For example, some communities might see suicide rates or methamphetamine use as afflicting their communities most heavily and therefore being most pertinent to examine.

In conclusion, though this research was helpful at highlighting some similarities and distinctions between these two AI populations, it has also prompted various ideas for future research and action regarding how best to work with and support AI college students. It is hoped that interest in and respect for the AI populations and the people that support them never wanes.

APPENDICES

Appendix A

Demographics Questionnaire

1. Age: _____
2. Circle all ethnicities that make up your ethnic/racial background:
 - Caucasian
 - Native American/American Indian/Indigenous
 - African American
 - Latino/a
 - Asian
 - Other
3. Do you identify primarily as Native American/American Indian/Indigenous?
 - YES NO
 - If YES, please continue with the study.
 - If NO, please stop here and contact the study administrator.
4. Circle the institution in which you are currently enrolled:
 - White Earth Tribal and Community College
 - University of North Dakota
5. What is your student ID number? By writing your Student ID number, you are agreeing to allow researchers to receive your official GPA and cumulative credits (as previously stated in the consent form):

6. Please write your first and last name below. By writing your name, you are agreeing to allow researchers to receive your official GPA and cumulative credits (as previously stated in the consent form):

7. Circle your sex:
 - Male Female
8. City & state where you are from:

9. Circle YES or NO if you have ever lived on a Native American reservation?
 - YES NO
 - 9. a) If YES, which one? _____
10. Circle YES or NO if your care taking parent/s or guardian/s are currently employed.
 - YES NO
 - 10. a) If YES, what job do they hold? _____

11. Are you currently receiving financial aid or scholarships?
 YES NO
12. Do finances present a challenge for you to attend college?
 YES NO
13. Circle your current year in college:
 Freshman Sophomore Junior Senior Graduate
14. Have you attended any other college or university prior to enrolling in your current academic institution?
 YES NO
6. a) If YES, how many? _____
 b.) If YES, what was the name and was it a tribal, public, or private institution?

15. How many college credits have you completed? _____
16. What is your current cumulative GPA? _____
17. How often do you attend American Indian traditional ceremonies?
 1(Never) 2(Rarely) 3(Sometimes) 4(Often)
18. How strongly do you identify with American Indian culture?
 1(Not at all) 2(A little) 3(Moderate) 4(Very Much)
19. Do you feel that your college/institution supports your identified culture and traditions?
 YES NO

Appendix B

Alcohol Use Questionnaire

1. Have you ever used alcohol? (circle YES or NO) YES NO
- If yes,
1. a) At about what age did you first use alcohol? _____
2. Have you used alcohol within the last month? (circle YES or NO) YES NO
- If YES,
2. a) On average, how many days did you drink per week in the last month? _____
2. b) On average, on the days you drank in the last month, how many drinks did you consume? _____
2. c) On approximately how many days in the last month did you drink 5 or more drinks in one sitting (if male) or 4 or more drinks in one sitting (if female)? _____
3. Have you used alcohol in the last 6 months? (circle YES or NO) YES NO
3. a) On average, how many days did you drink per month in the last 6 months (i.e., 0-30 days)? _____
- b. On average, on the days you drank in the last 6 months, how many drinks did you consume? _____
3. c) During the last 6 months, how frequently did you have 5 or more drinks (if male) or 4 or more drinks (if female) in one sitting (i.e. within a few hours)? (circle an option below)
- a. Never
 - b. Once or twice
 - c. Once every few months
 - d. Once a month
 - e. A couple times per month
 - f. Once a week
 - g. A few times per week
 - h. Daily/near daily
4. Do you have at least one family member that you consider to have a problem with drinking alcohol, either currently or in the past (circle YES or NO)? YES NO
4. a) If YES, how many of your family members do you consider to have a problem?
- _____
4. b) Please list how this person/these people are related to you (e.g., mother, brother, etc.)
- _____

Appendix C

Historical Loss and Historical Loss Associated Symptoms Scales

Please indicate how often the following thoughts regarding loss for a Native American/American Indian/ Indigenous person come to mind. Circle your response.

1. Loss of our land
Never Yearly or special times Monthly weekly Daily Several times/day

2. Loss of our language
Never Yearly or special times Monthly weekly Daily Several times/day

3. Losing our traditional spiritual ways
Never Yearly or special times Monthly weekly Daily Several times/day

4. The loss of our family ties because of boarding schools
Never Yearly or special times Monthly weekly Daily Several times/day

5. The loss of families from the reservation to government relocation
Never Yearly or special times Monthly weekly Daily Several times/day

6. The loss of self-respect from poor treatment by government officials
Never Yearly or special times Monthly weekly Daily Several times/day

7. The loss of trust in whites from broken treaties
Never Yearly or special times Monthly weekly Daily Several times/day

8. Losing our culture
Never Yearly or special times Monthly weekly Daily Several times/day

9. The losses from the effects of alcoholism on our people
Never Yearly or special times Monthly weekly Daily Several times/day

10. The loss of respect by our children and grandchildren for elders
Never Yearly or special times Monthly weekly Daily Several times/day

11. Loss of our people through early death
Never Yearly or special times Monthly weekly Daily Several times/day

12. Loss of respect by our children for our traditional ways
Never Yearly or special times Monthly weekly Daily Several times/day

Now I would like to ask you about how you feel when you think of these losses. Circle your response.

- | | | | | | |
|--|--------|-------|-----------|--------|-------|
| 1. Often feel sadness or depression | Always | Often | Sometimes | Seldom | Never |
| 2. Often feel anger | Always | Often | Sometimes | Seldom | Never |
| 3. Often anxiety or nervousness | Always | Often | Sometimes | Seldom | Never |
| 4. Uncomfortable around white people when you think of these losses | Always | Often | Sometimes | Seldom | Never |
| 5. Shame when you think of these losses | Always | Often | Sometimes | Seldom | Never |
| 6. Loss of concentration | Always | Often | Sometimes | Seldom | Never |
| 7. Feel isolated or distant from other people when you think of these losses | Always | Often | Sometimes | Seldom | Never |
| 8. A loss of sleep | Always | Often | Sometimes | Seldom | Never |
| 9. Rage | Always | Often | Sometimes | Seldom | Never |
| 10. Fearful or distrust the intentions of white people | Always | Often | Sometimes | Seldom | Never |
| 11. Feel like it is happening again | Always | Often | Sometimes | Seldom | Never |
| 12. Feel like avoiding places or people that remind you of these losses | Always | Often | Sometimes | Seldom | Never |

Appendix D

The Psychological Sense of School Membership (PSSM)

1. I feel like a real part of _____.
Not at all true Slightly true Moderately true Very true Completely true
2. People here notice when I'm good at something.
Not at all true Slightly true Moderately true Very true Completely true
3. It is hard for people like me to be accepted here.
Not at all true Slightly true Moderately true Very true Completely true
4. Other students at this college take my opinions seriously.
Not at all true Slightly true Moderately true Very true Completely true
5. Most instructors at _____ are interested in me.
Not at all true Slightly true Moderately true Very true Completely true
6. Sometimes I feel as if I don't belong here.
Not at all true Slightly true Moderately true Very true Completely true
7. There's at least one instructor or other official I can talk to at my college if I have a problem.
Not at all true Slightly true Moderately true Very true Completely true
8. People at this college are friendly to me.
Not at all true Slightly true Moderately true Very true Completely true
9. Instructors here are not interested in people like me.
Not at all true Slightly true Moderately true Very true Completely true
10. I am included in lots of activities at _____.
Not at all true Slightly true Moderately true Very true Completely true
11. I am treated with as much respect as other students.
Not at all true Slightly true Moderately true Very true Completely true
12. I feel very different from most other students here.
Not at all true Slightly true Moderately true Very true Completely true
13. I can really be myself at this school.
Not at all true Slightly true Moderately true Very true Completely true

14. The instructors here respect me.
Not at all true Slightly true Moderately true Very true Completely true

15. People here know I can do good work.
Not at all true Slightly true Moderately true Very true Completely true

16. I wish I were at a different college.
Not at all true Slightly true Moderately true Very true Completely true

17. I feel proud of belonging to _____.
Not at all true Slightly true Moderately true Very true Completely true

18. Other students here like me the way I am.
Not at all true Slightly true Moderately true Very true Completely true

The University of North Dakota recently changed their logo and mascot from the Fighting Sioux to the Fighting Hawks. Please respond to the following statements regarding this change.

19. The Fighting Sioux logo and mascot promotes negative racial stereotypes of American Indians.

Strongly Agree Agree Neutral Disagree Strongly Disagree

20. The Fighting Sioux logo and mascot provides a sense of pride to American Indian students in the region.

Strongly Agree Agree Neutral Disagree Strongly Disagree

21. The Fighting Sioux logo and mascot are offensive.

Strongly Agree Agree Neutral Disagree Strongly Disagree

22. Traditions associated with the Fighting Sioux, such as chants, bring people together.

Strongly Agree Agree Neutral Disagree Strongly Disagree

23. The Fighting Hawks logo and mascot is more appropriate for the University of North Dakota.

Strongly Agree Agree Neutral Disagree Strongly Disagree

24. Because of the Fighting Sioux/Fighting Hawks logo and mascot controversy, I don't feel like I belong at UND.

Strongly Agree Agree Neutral Disagree Strongly Disagree

REFERENCES

- (2007, March 15). New CASA* Report Finds: Half of College Students Binge Drink, Abuse Prescription and Illegal Drugs. *Center on Addiction*. Retrieved from <https://www.centeronaddiction.org/newsroom/press-releases/2007-wasting-the-best-and-the-brightest>.
- The Adverse Childhood Experiences Study: Child Abuse and Public Health. (n.d.). Prevent Child Abuse America. Retrieved October 13, 2019 from http://preventchildabuse.org/wp-content/uploads/2016/02/anda_wht_ppr.pdf
- Aertgeerts, B., & Buntinx, F. (2002). The relation between alcohol abuse or dependence and academic performance in first-year college students. *Journal of Adolescent Health, 31*(3), 223-225.
- Akins, S., Mosher, C., Rotolo, T., & Griffin, R. (2003). Patterns and correlates of substance use among American Indians in Washington State. *Journal of Drug Issues, 33*(1), 45-71.
- American College Health Association. American College Health Association-National College Health Assessment II: Reference Group Executive Summary Fall 2010. Linthicum, MD: American College Health Association; 2011.
- American Indian Student Services 2015-2016 Annual Report. University of North Dakota.

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 5(6), 1173-1182
- Beauvais, F., & La Boueff, S. (1985). Drug and alcohol abuse interventions in American Indian communities. *The International Journal of the Addictions*, 20(1), 139-171. doi:10.3109/10826088509074831.
- Berkowitz, A.D., & Perkins, H.W. (1986). Problem drinking among college students: a review of recent research. *Journal of American College Health*, 35(1), 21-28.
- Boyer, P. (1998). Native American Colleges: Progress and prospects. *The Journal of Academic Librarianship*, 24(3), 244-245. An Ernest T. Boyer project of the Carnegie Foundation for the Advancement of Teaching, 1997. San Francisco, CA: Jossey-Bass Publishers.
- Brown, D.L. (2002). The Perceptions of Selected Tribal College Transfer Students Attending the University of North Dakota. (Doctoral Dissertation, University of North Dakota, 2002).
- Caetano, R., Clark, C.L., & Tam, T. (1998). Alcohol consumption among racial/ethnic minorities: Theory and research. *Alcohol Health and Research World*, 22(4), 233-242.
- Collins, R.L. (1993). Drinking restraint and risk for alcohol abuse. *Experimental and Clinical Psychopharmacology*, 1(1-4), 44-54.
- Delong, L. M., Monette, G.E. & Ozaki, C. (2016). Nurturing Student Success in Tribal Colleges. *New Directions for Community Colleges*, 2016(174), 65-74. doi:10.1002/cc.20203

- Dinh, Khanh; Weinstein, Traci L.; Kim, Su Yeoung; & Ho, Ivy K. (2008). Acculturative and Psychosocial Predictors of Academic Related Outcomes among Cambodian American High School Students. *Journal of Southeast Asian American Education and Advancement* 3(1), 1-25. doi: 10.7771/2153-8999.1102.
- Donovan, E., Wood, M., Frayjo, K., Black, R.A., & Surette, D.A. (2012). A randomized, controlled trial to test the efficacy of an online, parent-based intervention for reducing the risks associated with college-student alcohol use. *Addictive Behaviors*, 37(1), 25-35. doi:10.1016/j.addbeh.2011.09.007.
- Ehlers, C.L., Gizer, I.R., Gilder, D.A., Ellingson, J.M., & Yehuda, R. (2013). Measuring historical trauma in an American Indian community sample: Contributions of dependence, affective disorder, conduct disorder, and PTSD. *The Journal of Drug and Alcohol Dependence*, 133(1), 180-187.
- Emerson, M.A., Roland, M.S. & Caetano, R. (2017). Association between lifetime posttraumatic stress disorder and past year alcohol use disorder among American Indians/Alaska Natives and Non-Hispanic Whites. *Alcoholism: Clinical and Experimental Research*, 41(3), 576-584.
- Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence*, 23(3), 316-338.
- Fritz, M. S., & Mackinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233-239.

- Gonzalez, V.M., & Skewes, M.C. (2016). Association of the firewater myth with drinking behavior among American Indian and Alaska Native college students. *Psychology of Addictive Behaviors, 30*(8), 838-849.
- Goodenow, C., & Grady, K.E. (1993). The relationship of school belongingness and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education, 62*(1), 60-71.
- Hartmann, W.E., & Gone, J. P. (2014). American Indian historical trauma: Community perspectives from two Great Plains medicine men. *American Journal of Community Psychology, 54*(3/4), 274-288.
- Hayes, A. F. (2017). **The simple mediation model.** *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York, NY: Guilford Press.
- Hingson, R., & Zha, W. (2009). Age of onset, alcohol use disorders, frequent heavy drinking, and unintentionally injuring oneself and others after drinking. *Pediatrics, 123*(3), 1477-1484.
- Holmbeck, G. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*(4), 599-610.
- James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology, 69*(2), 307-321.

- Johnston, L.D., O'Malley, P.M., Bachman, J.G., & Schulenberg, J.E. Monitoring the future national survey results on drug use, 1975-2009. Volume II: College students and adults ages 19-50, National Institute on Drug Abuse, Bethesda, MD (2010).
- Luger, E.J. (2015). Examining Alcohol Expectancy Differences between American Indian and Caucasian College Students. (Master's Thesis, University of North Dakota, 2015).
- Making the Case: Why Prevention Matters. (2019). Retrieved October 10, 2019 from <https://preventchildabuse.org/resource/adverse-childhood-experiences-robert-anda/>
- Martinez, J.A., Sher, K.J., & Wood, P.K. (2008). Is heavy drinking really associated with attrition from college? The alcohol-attrition paradox. *Psychological Addiction Behavior*, 22(3), 450-456.
- Mohatt, N. V., Thompson, A. B., Thai, N. D., & Tebes, J. K. (2014). Historical trauma as public narrative: A conceptual review of how history impacts present-day health. *Social Science & Medicine (1982)*, 106, 128–136.
doi:10.1016/j.socscimed.2014.01.043.
- Moran, J. R. (2002). Urban Indians and alcohol problems: Research findings on alcohol uses, treatment, prevention, and related issues. In P.D. Mail, S. E. Martin, & J. Howard (Eds.), *Alcohol use among American Indians: Multiple perspectives on a complex problem* (NIAAA Research Monograph No. 37, pp. 265-292). Bethesda, MD: National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

- National Institute on Alcohol Abuse and Alcoholism. (2006). Alcohol Use and Alcohol Use Disorders in the United States: Main Findings from the 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). U.S. Alcohol Epidemiologic Data Reference Manual, Vol 8, No. 1. NIH Publication No. 05-5737. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism. Retrieved from http://pubs.niaaa.nih.gov/publications/NESARC_DRM/NESARCDRM.pdf
- Presley, C.A., & Pimental, E.R. (2006). The introduction of the heavy and frequent drinker: A proposed classification to increase accuracy of alcohol assessments in postsecondary Educational settings. *Journal of the Study of Alcohol*, 67(2), 342-331.
- Robin, R. W., Long, J. C., Fasmusses, J. K., Albaugh, B., & Goldman, D. (1998). Relationship of binge drinking to alcohol dependence, other psychiatric disorders, and behavioral problems in an American Indian tribe. *Alcoholism: Clinical and Experimental Research*, 22(2), 518-523. doi:10.1097/00000374-199804000-00032.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312.
- Spicer, P., Beals, J., Croy, C. D., Mitchell, C. M., Novins, D. K., Moore, L., ... the American Indian Service Utilization, Psychiatric, Epidemiology, Risk and Protective Factors Project team. (2003). The prevalence of DSM-III-R alcohol dependence in two American Indian populations. *Alcoholism: Clinical and Experimental Research*, 27(11), 1785-1797.

- Spillane, N. S. (2007). A theory of reservation-dwelling American Indian alcohol use risk. *Psychological Bulletin*, 133(3), 395-418.
- Stein, W.J. (1998). A History of the Tribally Controlled Community Colleges: 1968-1978. (Doctoral dissertation, Washington State University, 1998).
- Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002). High-risk drinking in college: What we know and what we need to learn. Final report of the task force on college drinking's panel on contexts and consequences, National Institute on Alcohol Abuse and Alcoholism.
<http://www.collegedrinkingprevention.gov/NIAAACollegeMaterials/panelReports.aspx>
- Tierney, W.G., & Wright, B. (1991). American Indians in higher education: A history of cultural conflict. *Change*, 23(2), 11-19.
- Walls, M.L., & Whitbeck, L.B. (2012). The intergenerational effects of relocation policies on Indigenous families. *Journal of Family Issues*, 33(9), 1272–1293.
- Ward, B.W., & Ridolfo, H. (2011). Alcohol, tobacco, and illicit drug use among Native American college students: An exploratory quantitative analysis. *The Journal of Substance Misuse and Misuse*, 46(11), 1410-1411.
- Werner, M.J., & Greene, J.W. (1992). Problem drinking among college freshman. *Journal of Adolescent Health*, 13(6), 487-492.
- Weschler, H., Lee, J.E., Kuo, M. & Lee, H. (2000). College binge drinking in the 1990s: A continuing problem: Results of the Harvard School of Public Health 1999 College Alcohol Study. *Journal of American College Health*, 48(5), 199-210.

Weschler, H., & Nelson, T.F. (2001). Binge drinking and the American college student: what's five drinks? *Psychology of Addictive Behaviors*, *15*(4), 287-291.

Whitbeck, L. B., Adams, G. W., Hoyt, D. R., & Chen, X. (2004). Conceptualizing and measuring historical trauma among American Indian people. *American Journal of Community Psychology*, *33*(3-4), 119-130.

Winn, R. (2019, March 1). The Heartbeat of History. *Tribal College Journal*. Retrieved from <https://tribalcollegejournal.org>