

**Evaluating Approaches to Nutrition Education and Wellness of
Acjachemen Tribal Members in Orange County**

A THESIS

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By

Juliana Victoria Hernandez

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To Adeline and the powerful women in my life

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ABSTRACT

Obesity is a prevalent health risk among American Indian populations in the Southwest. The purpose of this research is to identify educational and culturally appropriate methods to lowering the rate of obesity among Native populations. Nutrition education is one systematic approach to educating individuals about healthy eating habits. This study evaluates preliminary data gathered from members of the Acjachemen tribe regarding their current approaches to well-being. Through survey instrumentation, the results identify personal perceptions regarding nutrition education, wellness, and tribal involvement. The outcome of this study reveals a gap between nutrition vocabulary and health awareness. This finding demonstrates that using a tribal-centric framework to improve nutrition education can be beneficial for the Acjachemen community. These preliminary findings will be useful for creating a Native health cookbook geared towards Acjachemen tribal members.

Keywords: Obesity, Acjachemen tribe, Wellness, and Body Mass Index.

Juliana V. Hernandez

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I. INTRODUCTION

Mi'yu'um. I am Acjachemen from the Juaneño Band of Mission Indians in San Juan Capistrano, California. My family belongs to the Rios-Ricardes of San Juan Capistrano from Totpam, Guaromo, Pituide, Gevet, and Alauna villages. Currently, there have been limited approaches in investigating American Indian wellness and nutrition education. Published literature regarding American Indian health examine health adversities such as diabetes and obesity but fewer works examine the impact of wellness and nutrition education from a tribal perspective. Even less academic literature discusses wellness and nutrition education concurrently amongst American Indian populations in Southern California.

According to the American Indian and Alaska Native Population Census in 2010, the state of California has more groups of Indigenous peoples than any other state. The intention of my research is to explore nutrition education and wellness among Acjachemen members in Orange County, provide the tribe with current preliminary data, and find innovative ways my community can gather for health while maintaining their tribal traditions and cultural identity.

My ancestors understood the importance of wellness before it had a western name. Wellness can mean the absence of disease, interconnectedness with our culture in daily life; it is the balance with one's body, mind, and spirit to maintain good health status (Hodge, 2011). Through my research, I aim to apply tribal knowledge of indigenous food groups and integrate preliminary recommendations for the tribe. In order to employ these recommendations, I will apply a cultural and academic lens while discussing nutrition education and wellness theory. The prevalence of diabetes and obesity among Native populations remains high. Using tribal-specific approaches to nutrition, I hope to bring my community together for the future of the Acjachemen people. Om'pal'oov.

1.2 ACJACHEMEN HISTORY

The first “written” record of the Acjachemen people began with its Spanish conquest. In 1769, Spanish soldiers entered Southern California and invaded Native villages in the region (Earle, 1994). Upon their arrival, “chiefs and others leaders were never recognized before [Spanish] law as legitimate political officers of their communities” (Earle, 1994). In addition, “native communities were never granted legal status by the Spanish as landholding corporations” (Earle, 1994). With conquest emanated the institution of Catholicism. In October 1775, the first early attempt to establish Catholicism started with the building of Mission of San Juan Capistrano (Kelsey, 1993). Franciscan friars Gregório Amúrrio and Fermín Francisco de Lasuén traveled with people, cattle, supplies, and soldiers to establish the mission (Kelsey, 1993). However, the early mission lasted only a few days due to an attack (Kelsey, 1993). A year later, 1776, the San Juan Capistrano Mission reopened on All Saints day. Due to insufficient water source and crop production, the mission and the people did not thrive once again. Some Natives, referred to at the time as Christian Indians, arrived to an inadequate Mission in 1778 (Kelsey, 1993). They helped rebuild a new mission in “Acagcheme”, their village site (Kelsey, 1993). To friars, the “Acagcheme” village provided an ideal location to rebuild– “water was plentiful, crops flourished, and cattle herds grew to astonishing proportions” (Kelsey, 1993). The word “Acágcheme” used by friars and missionaries, referred to the Indian village in Native origin. Upon missionization, the term Juaneño became the Spanish colonial term for the tribe and is used interchangeably to this day.

Following the success of mission institutionalization, the 1830s culminated the dispossession of Juaneños from their land (Kelsey, 1993). Governing officials from Mexico and

California enacted laws and decrees to remove mission settlers and mission Indians to gain control of Mission San Juan Capistrano (Kelsey, 1993). Unfair treatment and lack of western-devised knowledge concerning laws prompted many Juaneños to leave. They declined to work for the mission any longer and it was quickly left for ruins until 1845 (Kelsey, 1993). Governor Pico granted buildings and land in the mission to wealthy proprietors Juan Forster and James McKinley; they purchased the ruins of San Juan Capistrano for \$710 (SJC Historical Society, 2013). The families used the quarters built by missionized Juaneños as a family home (Kelsey, 1993). Pilar Filomena Rios, a Juaneño that remained for work, labored as a maid for the Forster family.



Image: (Left to Right) Uncle Silverio, Maria Ybarra, another uncle, Marie Rios, Juan Antonio Rios, and Pilar Filomena Rios.

Pilar Filomena Rios was born on her family's ranch near mission San Juan. Throughout her life she was a midwife, a maid, and mother. She married Santos Eustaquio Ricardes; they shared a daughter Julia Delores Ricardes. Pilar and Santos were post-mission Juaneños. Here Pilar stands; she is a figure of missionization, the untold colonial narrative. She is *mama mena*;

the colonized indigenous Acjachemen; she is the mestizo product. Pilar Filomena Rios is my great great grandmother.

Following the encroaching occupation of California, President Abraham Lincoln gave the mission back to the Catholic Church in 1864 and a new bishop was appointed for territories under the Catholic Church (Kelsey, 1993). Bishop Joseph Alemany resolved to regain land “for Indians and for the church” (Kelsey, 1993). Bishop Alemany “presented two claims to the special board appointed to adjudicate claims for land in California” (Kelsey, 1993). He argued a square league of land at all 21 missions for Native people, including individual plots of land (Kelsey, 1993). According to Kelsey, “the commission rejected the Indian claim outright, holding that the Indians of California possessed neither an aboriginal right to the land nor a grant from the government of Spain or Mexico.” Consequently, the ruling was the outright opinion in congress and courts during this time.

The limited literature about southern California tribes and their history of forced colonization are reasons my tribe considers Mission San Juan Capistrano their only homeland. Yet what is now Orange County is all Acjachemen land. Key literary sources such as Kelsey’s, *Pocket History of San Juan Capistrano* refer to Acjachemen origins from the perspective of its first colonizers, the Franciscan friars. Seizure of sacred land due to Spaniard occupation removed Acjachemen ancestors from their coastal villages. 248 years since, and Juaneños remain powerless to the exploitation of their indigenous land, land that was once home to 275,000 Acjachemen people. The remains of Juaneño ancestors throughout Orange County are proof of that.

Today the city of San Juan Capistrano is a teeming tourist destination praised for its romantic celebration of the past. Yet behind the buzzing tourist attractions, the *vanished Indian*

remains, while today's Acjachemen continue to live and work. Many Acjachemen members that remain in the city live in the first homes of their Juaneño ancestors, on the very streets that carry our colonial Spanish surnames. Juaneño homeland throughout Orange County has been irrevocably erased due to freeway constructions, consumer properties, and track-home real estate.

It is clear, from the records of California history, that the Acjachemen have been preserved as artifacts rather than a thriving nation. Depiction of Native life throughout San Juan Capistrano is idealistic and vibrant. The *vanished Indian* is illustrated on mission murals and museums, as if to depict Native people as vestiges of the past, no longer alive and vibrant in the present and future. This preservation of the past reveals a romantic representation of Acjachemen villagers and their Spanish colonizers. The “collective conscious” of tourists are unaware of current Acjachemen families living in the county (Kelsey, 1993). Jacque Nunez, a tribal member, has dedicated her life to preserving Acjachemen traditions through childhood education. Her work with numerous institutions has educated youth generations about Native life in southern California. For over 30 years, she has been deconstructing the colonial narrative that persists. Jacque continues to share with others we are not merely a mural, or an *Indian artifact*. The Juaneño Acjachemen continue to live and breathe in their city.

1.3 ACJACHEMEN "CULTURAL DISPOSSESSION AND THE STRUGGLE FOR CULTURAL AND POLITICAL SOVEREIGNTY" (EARLE, 1994)

"The split undermines us tremendously. There's not as much power as if we were speaking as one. Outside people seem to focus on the divisions."

Rebecca Robles, a member of one of three Juaneño Indian factions

For Juaneño Indians, Unity Proves Elusive

Leaders of three factions in San Juan Capistrano aren't even on speaking terms. It could become a snag in the tribe's quest for federal recognition.

By DAVID McRIBBEN
Times Staff Writer

Splintered for more than a decade, members of the Juaneño Band of Mission Indians have bickered over elections, casino proposals and plans to build athletic fields on their land.

But the estimated 4,000 members of the Acjachemen Nation scattered throughout Orange County and other parts of the country may have a compelling reason to become one again: the promise of federal recognition.

With recognition, the Juaneños could form their own government and qualify for many of the benefits enjoyed by the 362 federally recognized nations, including federal money for education and health care, land for a reservation and even, possibly, a casino.

But as the Juaneños move into the final stage before formal recognition, there are few signs that their three factions are getting along.

The three Juaneño leaders — David Belardes, Anthony Rivera and Sonia Johnston — have said they want to merge their factions. But as the U.S. Bureau of Indian Affairs begins to review the Juaneños' petition for recognition, the leaders apparently still are not on speaking terms.

Joyce Perry, tribal manager under Belardes, said she sent certified letters to Rivera and Johnston two months ago but had not heard back from either.

"I offered to meet them anytime, anywhere," Perry said. "And I'm comfortable with a moderator. If the intent is to come together, it would be in everybody's best interests to do it sooner rather than later."

Johnston said she also had reached out to Belardes and Rivera through intermediaries.

"No one has tape over their mouths," Johnston said. "I always hear what's going on in the other groups. We only have one history. But no, I haven't spoken with leaders of the other two groups."

The Juaneños are indigenous to Orange County, dating back at least 10,000 years. In the late 1970s, a formal government structure was established and a petition for federal recognition followed a few years later. Today, Juaneños live throughout Orange, Riverside, San Diego and Los Angeles counties, and some live elsewhere in the country.

Tribal members began receiving mixed messages in 1984 when Belardes' election as tribal chairman was disputed. Johnston was

then elected by another group of Juaneños who recognize her as leader. A few years later, another group split away from Belardes when some members accused him of negotiating a deal with Nevada investors to build a casino on a 20-acre lot in San Juan Capistrano. The acreage is thought to be a tribal graveyard.

Over the years, the three leaders have disagreed over whether to support J Serra Catholic High School's plan to build athletic fields on the burial site.

They even have tussled over how many members each group has.

Rivera, who took over one faction in January, says about 1,000 Juaneños recently switched allegiance from the other two groups and that his now has about 3,000 members.

"I don't claim to be a hero or anything," Rivera said. "I'm just doing what the people elected me to do, and that's uniting our people. I think people are listening to our message."

Johnston says her faction has about 1,500 members, though Belardes and Rivera say the number is much lower. Perry, meanwhile, said that about 200 Juaneños were under Belardes' leadership and that only about 200 people actually belonged to Rivera's group.

"They say 3,000 are in their group," Perry said. "That's a huge concern of ours. We don't know who all these people are and where they came from."

Rebecca Robles, whose family has been in all three factions at one time or another, said the rift was embarrassing.

"Somehow, everybody is stuck," said Robles, a San Clemente nurse who now belongs to Rivera's group.

"The split undermines us tremendously. There's not as much power as if we were speaking as one. Outside people seem to focus on the divisions."

Robles said she had considered leaving the tribe altogether because it was in such disarray.

"But the cultural ties are so strong," Robles said. "So I choose to stay and work with them."

The Bureau of Indian Affairs said it was considering two Juaneño petitions, one from Johnston and another from Rivera. Nedim Darling, a bureau spokeswoman, says her office realizes that there are two factions — Belardes' and Rivera's — noted in the Rivera petition, so it has identified Rivera as the "spokesperson" for the acknowledgment process and Belardes as an "interested party."

"We had to have a person we can deal with, so we picked Mr. Rivera," Darling said. "But they really do need to clarify who their leader and governing body are."

Darling said the process could take at least two years. Anthropologists, archeologists and genealogists must evaluate and verify the Juaneños' tribal history and membership rolls. The petitions will be judged on the tribe's ability to meet seven criteria, including maintaining a distinct community and continuous government from historical times to the present, and providing proof of governing documents or procedures.

Perry said she was concerned that the process could be muddled if the bureau received conflicting data from the three groups.

"How foolish of us," Perry said. "We could be our own worst enemy."

Perry said potential reservation sites included pockets of land on the former El Toro Marine Base, Camp Pendleton, the Cleveland National Forest, off

Ortega Highway and the Seal Beach Naval Weapons Station.

Not everyone in O.C. is excited about the prospect of tribal recognition, because of the Juaneños' rumoredly obtaining tribal land at the former El Toro base. Irvine Councilman Larry Agran proposed a resolution last month declaring his city a commercial gambling-free zone on the off-chance an Indian casino might be contemplated.

Irvine is planning residential and commercial development around a 1,000-acre park to be built at the former base.

None of the three tribal leaders have expressed a desire to build a casino, which would be a longshot at best. A full-scale urban casino would require approval from local governments, the California governor and the secretary of the Interior.

Gov. Arnold Schwarzenegger issued a proclamation this year opposing Indian casinos in urban areas.

"Gaming is not an issue for me now," Johnston said. "There is a law that states that we can do that, and casinos have brought many tribes out of dire poverty. But my main concern is a land base for our people."

"We need a place to call home again."



WHERE THERE'S SMOKE: Rebecca Robles of San Clemente burns sage at a recent ceremony. She has thought of leaving the tribe because of the disarray, but says the cultural ties are too strong.



UNITED IN PRAYER: About 300 people honor their ancestors in San Juan Capistrano at an Oct. 1 pilgrimage.

Photographs by Glenn Kasper/Los Angeles Times

Image: Newspaper clipping (Monday, October 10, 2005)

For over 47 years, the Acjachemen nation has formally petitioned to regain federal recognition for 1,900 enrolled descendants. This struggle to reclaim land has remained a painful

reminder among families that can no longer afford to live in the high-income region.

Furthermore, family factions and tribal leadership has driven a wedge within my tribe where two large families divided concerning the future of the people— “Conflicts over which community most legitimately represents or embodies or which extended family group has the greatest claim to, as the voice for a larger entity and tribal heritage is a thread which can be followed through most recent Native political activity in southern California” (Earle, 1994). Here I will briefly discuss when the struggle for tribal sovereignty took place.

Transfer of California sovereignty to the United States followed in the early 1850s. Early on, attempts to treaty with California Indians were derailed by political and local California people, which resolved to exterminate the current Native populations (Earle, 1994). An “extinction rhetoric” of California American Indians ensued (Earle, 1994). In 1871, without their informed consent, the United States legislated the fate of southern California Native communities (Earle, 1994).

Following the unfair treatment and legislation, the Act for the Relief of Mission Indians passed in 1891 in an attempt to help mission Natives and support Native communities (Earle, 1994). Academics such as, David Earle, a published ethnographer of Acjachemen records, worked closely with members for many years. His work addressed important issues such as treatment of sacred spaces, tribal traditions, disposition, and misinformation concerning contemporary Native values and experiences. Earle spoke to the behaviors of politicians, local legislators, and the business communities that “entertain” a notion that Native southern California Indians no longer exist, or are no longer around. The so-called “extinction rhetoric” was done mainly for reasons that benefit the consumer community in order to control the space, the narrative, and land of Native communities in southern California (Earle, 1994). Acjachemen

dispossession and fragmentation of tribe and land endures. “For [some] Juaneño Indians, unity proves elusive; tribal trauma is one perception that begins to describe the psychological effects to modern Indigenous populations (Newspaper clipping, 2005; Braveheart, 1998).

1.4 THE HISTORICAL TRAUMA RESPONSE

Historical loss of the Acjachemen Nation has fragmented the tribe. According to the 2000 Census of San Juan Capistrano, 13,473 people lived within a mile radius of the Mission. Only 189 Native Americans of that assessment lived within a mile of the Mission; 1.41 percent of the city of San Juan Capistrano’s demographic (Census, 2000). Currently there are 1,900 enrolled descendants; which means less than 10 percent of the tribe are living on ancestral Acjachemen land. It is not only the emotional loss or heartache for our displaced ancestors, toxic outlets have stemmed in response.

Among Native people, high rates of depression combined with obesity and diabetes are frequent (Rendeiro, 2016). “Compounding high rates of type 2 diabetes is the incidence of serious psychological distress that is also highest for NA/AI populations at 25.9%” (Rendeiro, 2016; Urban Indian Health Institute, 2012). In literature, this is known as the historical trauma response; it is a multidimensional layering of attributes and perceptions that impacts Indigenous populations of today (Braveheart, 1998). The historical trauma response concept has been exercised in public and academic settings for its ability to relate to modern Indigenous groups (Denham, 2008; Mohatt, 2014; Rendeiro, 2016) Generally, it is used as an identified cause for modern Indigenous peoples’ issues (Denham, 2008; Mohatt, 2014). However, the term is vastly multifaceted. It includes perceptions and layers that do not identify with one sole cause. Therefore, applying historical trauma is a tricky realm. While it allows Western and Indigenous

perspectives to begin talking about the oppression of colonized groups and how this affects their health today, it lacks in actually serving the colonized groups (Rendeiro, 2016). To serve my tribe and Indigenous populations, it is important to view contextually historical, cultural, and tribal knowledge without boundaries or limitations. Through multiple lenses, I will consider the historical trauma response to deconstruct westernized perceptions and prompt a Native-centric narrative in my research. It is my goal, as an investigator and a member, to bring all aspects together. To decolonize the multilayered generations of my people, I will start by evaluating the importance of nutrition education, the setting for which many Natives share unhealthy relationships with food, and origins of food insecurity among Natives. In this way, I can to begin to understand, what it means, to be a multilayered and colonized nation generation.

II. FRAMEWORK

2.1 WHAT IS NUTRITION EDUCATION? WHY IS IT IMPORTANT?

Nutrition education was created “when governments began publishing dietary guidance recommendations for the public based on the findings of nutrition science and taking into account cultural eating patterns” (Contento, 2007). The first nutritional food guide was published in 1917 by the U.S. Department of Agriculture to promote healthy living in U.S. populations (Contento, 2007). Nutrition education is defined as “any combination of educational strategies designed to facilitate voluntary adoption of food choices and other food and nutrition related behaviors conducive to health and well-being; . . . it is delivered through multiple venues and involves activities at the individual, community, and policy levels” (Edwards and Patchell, 2009). The inclusive goal of nutrition education is to reduce chronic health-related diseases, such as diabetes and maintain a weight below or average to the calculated BMI or Body Mass Index

of an individual (Contento, 2007). According to the National Institute of Health, BMI is a person's weight in kilograms (kg) divided by his or her height in meters squared. NIH currently defines underweight, normal weight, overweight, and obesity according to a person's BMI. In sum, food education is one systematic approach to educating individuals about healthy eating habits and encourages obesity prevention. It aims to cover the influence of food behaviors and is a tool for targeting behavioral changes (Edwards and Patchell, 2009).

So why is it important to be healthy? From 1994 to 2004 diabetes among Native populations increased 68 percent (Edwards and Patchell, 2009). Nutrition education is vital to lowering the rate of obesity in the United States among Native populations (Edwards and Patchell, 2009). A health related risk, such as diabetes is directly related to a person's lifestyle choices and food behavior (Contento, 2007). Native adults and youth are at risk, "Indigenous North American youth are 9 times more likely to be diagnosed with type 2 diabetes compared to non-Hispanic whites" (Rendeiro, 2016; Urban Indian Health Institute, 2012). Additionally, "diabetes diagnoses in Native youth have risen by 110% from 1990-2009, surpassing all other groups" (Rendeiro, 2016; Urban Indian Health Institute, 2012). In 2014, a survey was conducted to better understand the youth obesity epidemic in the United States. According to The Center of Disease Control Division of Adolescent and School Health, the survey found that 14 percent of U.S student populations are obese, meaning they have a BMI greater than 30. Furthermore, 14 percent of U.S. student populations do not eat breakfast on a daily basis and 24.9 percent of U.S. school districts offer nutritional services (CDC Database). To decrease the obesity epidemic, not only is it important to focus on adult obesity, it is also imperative, to share healthy traditions with youth members as well. For the future well-being of the Acjachemen tribe, this is for you and for your children.

Nutrition education covers key concepts for determining health status because it is an appropriate method for complete wellbeing. With this in mind, the purpose of my preliminary research is to identify educational and culturally appropriate methods to lowering the rate of health-related risks in the Acjachemen community. Knowledge base of nutritional vocabulary, routine awareness of BMI, and balanced food behavior are fundamental. To understand each relationship is to maintain a healthy lifestyle. Furthermore, to promote nutritious eating habits, food education will include applying the ancestral Acjachemen diet as a framework for Native-centric food education. However, it is important to continue to incorporate general nutrition education concepts because it plays a critical role in food vocabulary and BMI status.

2.2 NATIVE HEALTH RISKS IN THE SOUTHWEST

For the continual survival of Native populations, research suggests nutrition education is the one of the first steps to health-related risk prevention (Edwards and Patchell, 2009). The research that covers nutrition education is extensive. It is a predominant issue that in many ways distinguishes health status among minority populations throughout the United States. This is in part due to the widespread epidemic of obesity the U.S. continues to struggle with (Edwards and Patchell 2009).

Current studies that assist Native people explore ways to eat healthy, maintain cultural traditions, gain quality foods, and receive proper education regarding healthy eating habits (Edwards and Patchell, 2009). However, few discuss health from a tribal-specific framework. In 2011, the reported obesity rate among American Indians was the highest rated population in the United States (CDC Database, 2011). 30 percent of American Indians and Alaska Natives have pre-diabetes and recent reports indicate 16.3 percent of American Indian and Alaska Native

adults are diagnosed with diabetes compared to 8.7 percent of non-Hispanic whites (Edwards and Patchell, 2009). According to the American Indian and Alaska Native Population Census in 2010, the state of California has more groups of Indigenous peoples than any other state. These current statistics indicate disconnect with current applied nutritional strategies and Native populations, where the majority of multiple Native populations are throughout California.

2.2 FOOD INSECURITY: A TIMELINE OF HOW THIS AFFECTS WHAT WE EAT TODAY

Food insecurity for Native populations began with the establishment of reservations in the U.S. (Edwards and Patchell, 2009). Food insecurity is defined as, “the state of being without reliable access to a sufficient quantity of affordable, nutritious food” (United States Department of Agriculture, 2017). Reservations are government allocated plots of land that forced Native people off of their rightful homeland. They are the offspring of colonization and it continues to affect Native people of today. Due to the forced movement of Natives off their homeland, a timeline in the decline of Native health populations is identifiable, and in turn affects how we eat today. I will discuss this timeline here.

From 1920s to 1950s Native populations throughout the United States received “staples of canned meat and fish, bread, beans, sugar, and coffee or tea” (Prucha, 1986). This transition from indigenous foods to western or colonized food staples from the 1920s to 1950s proved detrimental to Native populations. Past surveys detail the deterioration of the health of Native people, where at the time, malnutrition was widespread until the 1950s (Edwards and Patchell, 2009).

Following the 1950s, the food distribution to reservations was low quality and insufficient in promoting healthy eating practices (Edwards and Patchell, 2009). Food received

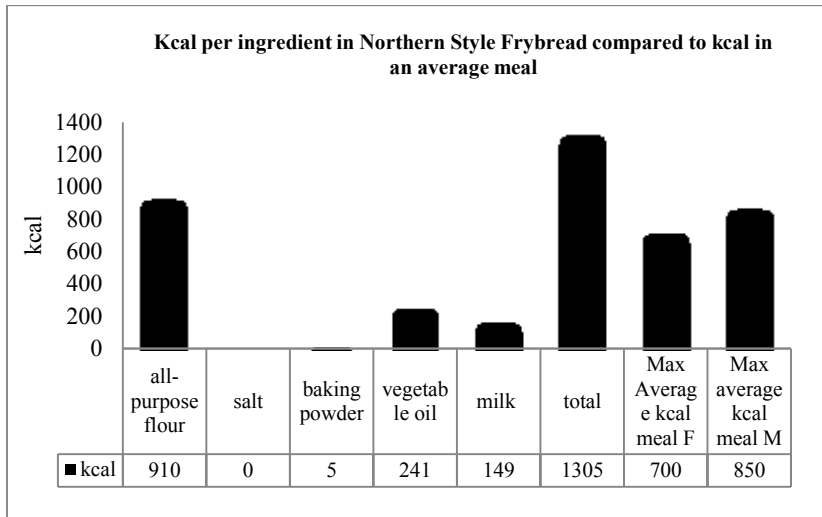
by the government did not meet dietary standards to promote sufficient quality of living among Native people (Edwards and Patchell, 2009). Health status and dietary patterns on reservations were dictated by “the arrival of welfare checks and the distribution of government commodities” (Edwards and Patchell, 2009). Food items such as flour are contributors to the eating behaviors many Native people utilize today (Edwards and Patchell, 2009). Native frybread is a popular meal and a staple food for many tribes throughout the Southwest. However, the origin of fry bread was the result of low quality products distributed from the government to reservations.

Today it is common to see frybread at intertribal gatherings such as Pow wows. The frybread stands are constantly busy. Each one generally represents a tribe or well-known frybread-making family name and Native families work together to perfect their homemade recipe. Besides competitions, tasty frybread stands are one of the main Pow wow appeals. Typically, a customer will receive their frybread from Native cooks, it is covered in flour and served piping hot on a paper plate. Ample condiments such as powdered sugar, honey, and cinnamon are provided on the table. The serving size of condiments is up to the individual’s discretion. The recipe ingredients and process of making fry bread is a high fat and high carbohydrate meal. The table below features the ingredients in a typical fry bread without condiments (Table 1.2).

Table 1.1 Recipe for Northern Style Frybread. Selections from Native American Women’s Association Cookbook.

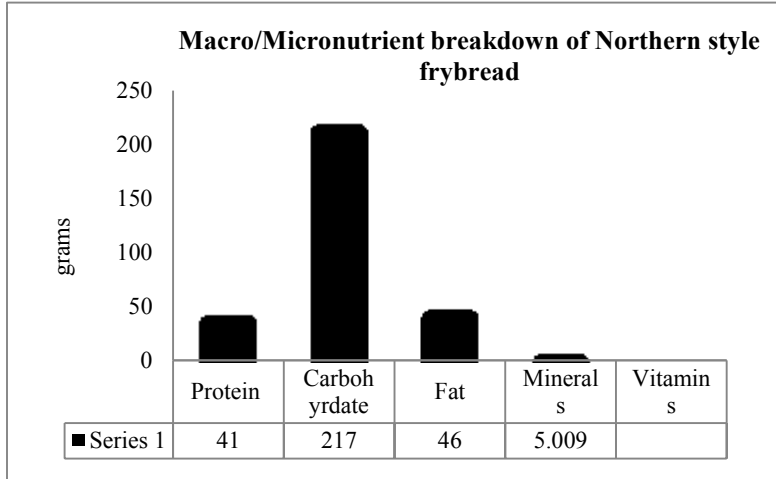
Northern Style Frybread
2 cups flour
½ teaspoon salt
2 teaspoon baking powder
2 tablespoon oil
1 cup milk

Table 1.2 Kcal per Ingredient in Northern Style Frybread compared to Average Kcal per meal for Males (m) and Females (f).



The total caloric intake in Northern Style fry bread is 1305 Kcal each. See above, flour is the highest caloric ingredient (Table 1.2). The caloric intake in two cups of flour is 910 calories. 910 calories for males, is 60 calories over, and for females, 210 calories over, the total recommended caloric intake for one meal. In total, for females, frybread is 605 Kcal over the suggested average caloric intake per meal. (Table 1.2) For males, frybread is 455 Kcal over the suggested caloric intake. (Table 3.1) A macronutrient and micronutrient breakdown of Northern style frybread indicates it is highest in carbohydrates with 217 grams and lacking in protein, vitamins, and minerals that are necessary for a balanced diet. (See below Table 1.3)

Table 1.3 Macro/Micronutrient Breakdown in Northern Style Frybread.



The consumption of frybread is not recommended for maintaining a healthy balanced diet. This transition from traditional Native foods to government distribution is one trend that led to Native’s unhealthy eating habits and still affects them today. By the 1960s, “most Native Americans had diets similar to those of the non-Indian population” (Edwards and Patchell, 2009). Native people had entirely transitioned from consuming traditional Native foods from their homeland to government-distributed ingredients that provided daily insufficient nutrients to survive (Edwards and Patchell, 2009). This trend continues. For example, documented reports indicate that as recently as the late 1990s, one-fourth of Native American households were food insecure (Henchy, Cheung, & Weill, 2002). This means Native households did not have access to enough food to meet their basic needs and one out of twelve experienced hunger and food insecurity (Henchy, Cheung, & Weill, 2002).

Poor eating habits have many side effects such as obesity, diabetes, and cardiovascular diseases. Poor eating habits include eating meals high in caloric intake such as carbohydrates and fats. Nutritional analyses of individual recipes aid in identifying total caloric intake and consumptions of nutrients such as proteins, fats, carbohydrates, vitamins, and minerals levels.

Furthermore, an advanced nutritional analysis of daily consumption of foods determines nutrient deficiencies or efficiencies such as over/under consumption of macronutrients and micronutrients. It is important to formulate an understanding of which recipes are sufficient in nutrients and quality of food to begin to create new healthy recipes for Native people.

III. FINDINGS

3.1 METHODOLOGY

My research instrument involved both qualitative and quantitative assessment in a short five-question survey. Qualitative data record worded responses and quantitative record numerical responses. The survey assessed age demographic, perceived wellness rating, implementation of tribal traditions, BMI awareness, and confidence in nutrition education (See Appendix II). The question format included dichotomous, or yes or no questions; Likert scale; multiple-choice; and comments optional section. A Likert scale reveals degrees of opinion, depicted in the survey as ratings. It allows a fixed range from one to five stars to help identify areas of improvement in personal wellness, confidence in nutrition education, and education in the community. One indicates poor; two, fair; three, good; four, very good; five, excellent. It is particularly helpful for sensitive or challenging topics or subject matter. Utilizing a short survey allowed me to gather data quickly from tribal members at the Tribal Election.

The survey was given to participants written or verbally outside tribal hall in San Juan Capistrano, California on Saturday, January 21st, 2017. Tribal Election Day provided the chance to collect survey information from participants that are not always able to attend tribal meetings or attend tribal events regularly. Reasons many participants cannot make all tribal events include, distance from tribal, scheduling conflicts, and/or transportation. My equipment included paper

surveys, clipboards, pens, and raffle tickets given to participant's for a chance to win three gift cards to Walmart.

The survey required an estimated 5-10 minutes per participant. To create an accessible survey for elders, all members were given the option to take the survey orally. For each oral survey, survey time increased 10-20 minutes. Oral dissemination of information is essential to Indigenous culture because written history and education is not a Native custom.

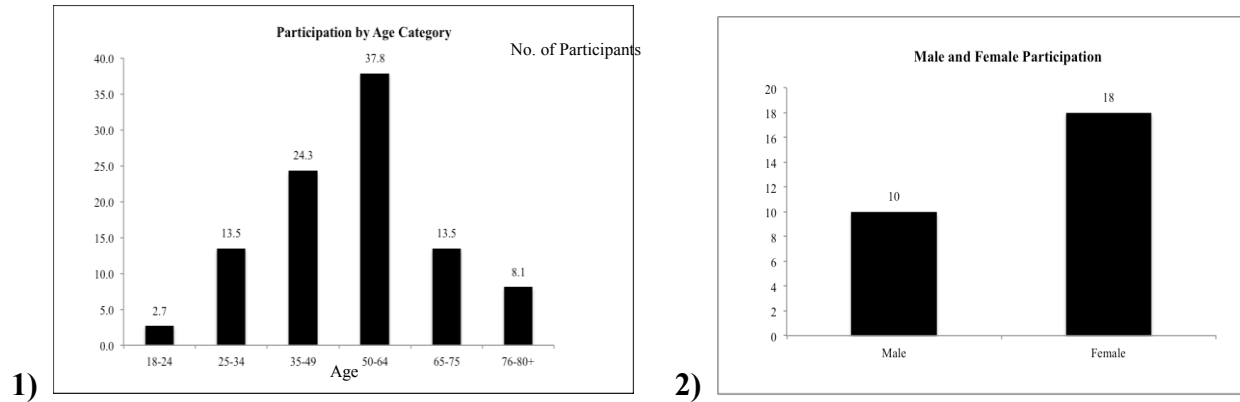
The purpose of the survey is to shed light on current Acjachemen health concerns and to identify culturally appropriate methods regarding health and wellness. After data was collected, statistical analysis of recorded responses was done using excel. Use of bar charts and scatter plot graphs were created to begin to interpret preliminary findings in this research.

Potential limitations included recorded responses at times can prove to lack depth, respondents can omit or disregard any item he or she chooses, and some survey items can force a respondent to select responses that were not his or her genuine choice. Additionally, the depth of the survey is limited according the interest of the participants, data is limited to the information that the participant chooses to provide, items in the survey can be misinterpreted, and printing is lengthy and costly.

The levels of measurement used for further statistical analysis included nominal or lowest level measurements. Nominal level of measurement requires assigning numbers to classify response characteristics into categories. For example, question 4.5 asked, "Do you know your BMI?" The response to this question is a dichotomous yes or no; yes, represents 1 and no represents 0. Nominal level variables in the survey were measured in question 3, 4, 4.5, and 5.5 of the survey.

3.2 RESULTS

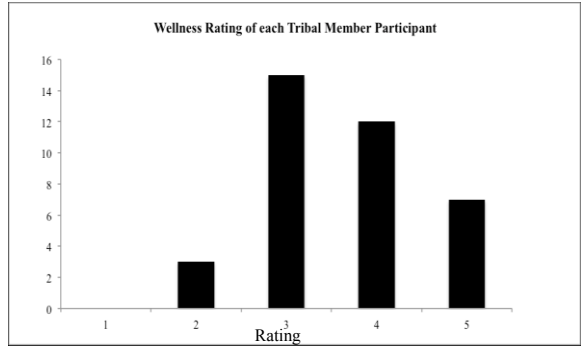
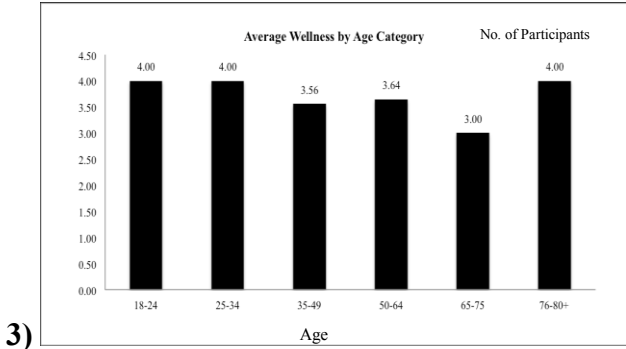
The findings below graphically represent responses to questions 1-5 in The Acjachemen Health and Wellness survey given on Saturday, January 21st, 2017 (See Appendices II).



Figures 1-2: 1) Participation by age category (Question 1). 2) Participation by gender (Q1).

In Figure 1, the majority of participants were 50-64 years old. The minority of participants were 18-24 years old and 76-80+ years old. 13.5 percent were 25-34 years old and 65-75 years old; a 40-year age-discrepancy between both age categories accounted for 27 percent of the survey population. Ages 18-24 and 76-80+ accounted for 10.8 percent of the survey population, a 56-year discrepancy. By gender, 64 percent of participants were female and 36 percent were male. This percentage is based off of 28 tribal members that disclosed their gender (Figure 2).

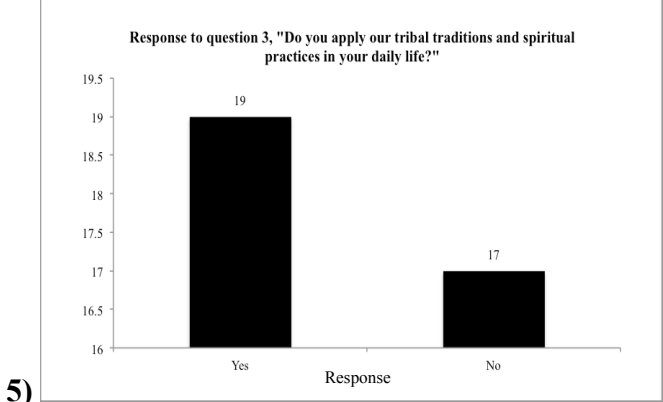
Average Wellness



3)

4)

No. of Participants

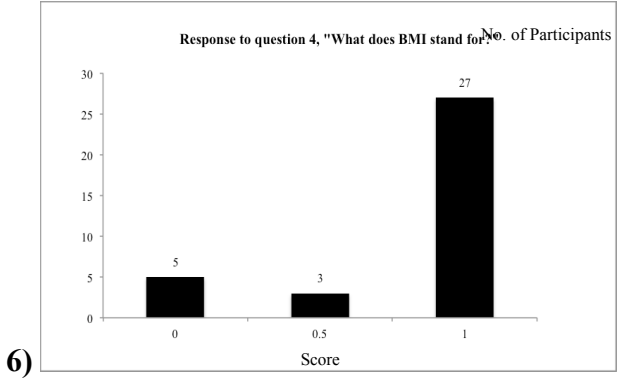


5)

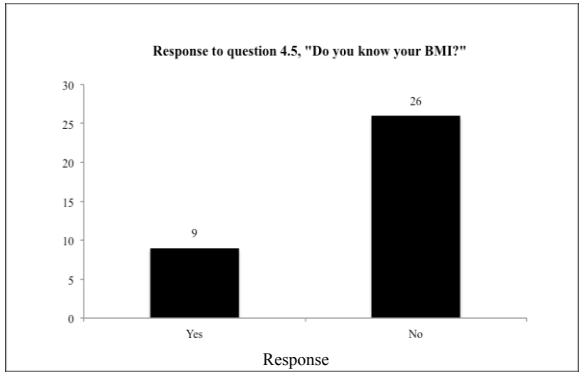
Figures 3-5: 3) Average wellness rating of tribal members by age (Q2). **4)** Wellness rating of tribal members (Q2). **5)** Response to question 3, “Do you apply our tribal traditions and spiritual practices in your daily life?”

Figure 3; the total average within each range rated their wellness a 3 or higher. The average 65-75 had the lowest average wellness rating. The average 18-24, 25-34, and 76-80+ rated their wellness 4. Yet, these age categories were the lowest participation populations. The majority of respondents were 50-64 years old; they rated average wellness a 3.64. The second largest age group was 35-49; their average wellness was also below 4. Overall, the general trend of individual participants rated their wellness a 3 (Fig. 4). Fewest participants rated their wellness a 2 or below (Fig. 4). Figure 5 indicates 50 percent of participants apply tribal traditions daily and 45 percent do not. It is clear there is a divided record of responses between those who apply tribal traditions and those who do not.

No. of Participants

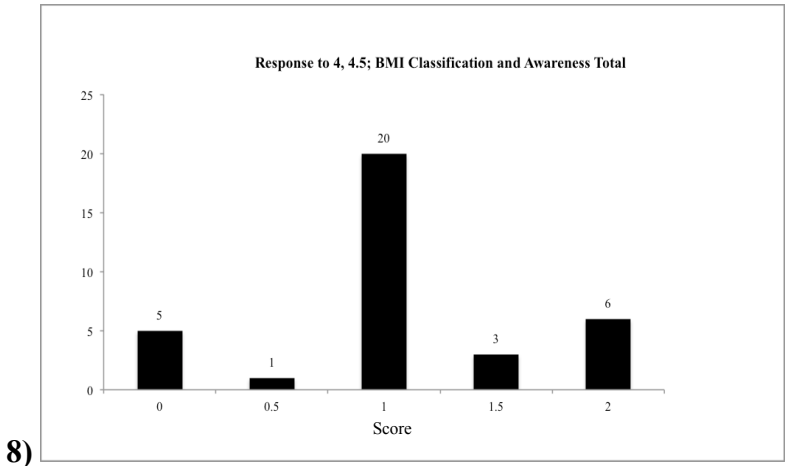


6)



7)

No. of Participants



8)

Legend (Figure 8)

0: incorrect response to question 4

1: correct response to question 4

2: correction response to question 4, 4.5

Legend (Figure 6)

0: incorrect response

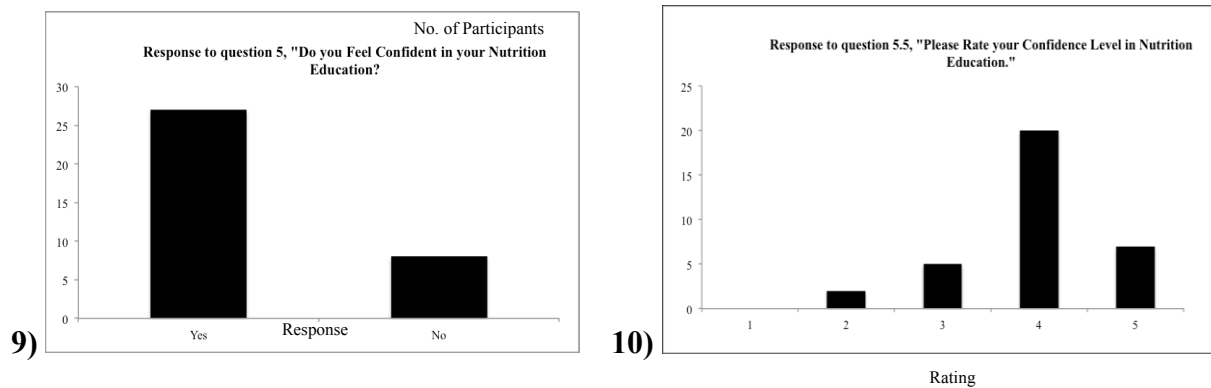
1: correct response

Figures 6-8: 6) Response to question 4, "What does BMI stand for?" 7) Response to question 4.5, "Do you know your BMI?" 8) Response to question 4, 4.5; BMI classification and awareness total.

The bar charts above depict statistical measurement of question 4. Figure 6 identifies respondents that scored correct, wrong, or received half credit when asked; "What does BMI stand for?" Participants were given five multiple choices, the correct answer being Body Mass Index (See Fig. 6). Results indicate more than 65 percent of participants responded correctly, 13 percent of participants responded wrong, and 8 percent received half credit (Fig. 6). Half credit responses account for tribal elders that elected to participate in a verbal survey alternative. Overall, 21 percent of participants were unable to define BMI correctly (Fig 6). The general population defined BMI correctly. 71 percent of respondents knew what BMI meant; whereas 68

percent did not know their current BMI score (Figs. 6, 7). Figure 8 depicts the total score for both questions. Participants received one point for correctly defining BMI and one point for responding yes to BMI score awareness. The maximum score obtainable was two points. Data indicates 53 percent of participants correctly defined BM for one point. Only 16 percent were aware of their current BMI score and correctly defined BMI for two points. The general population obtained one point (Fig. 8).

of Participants



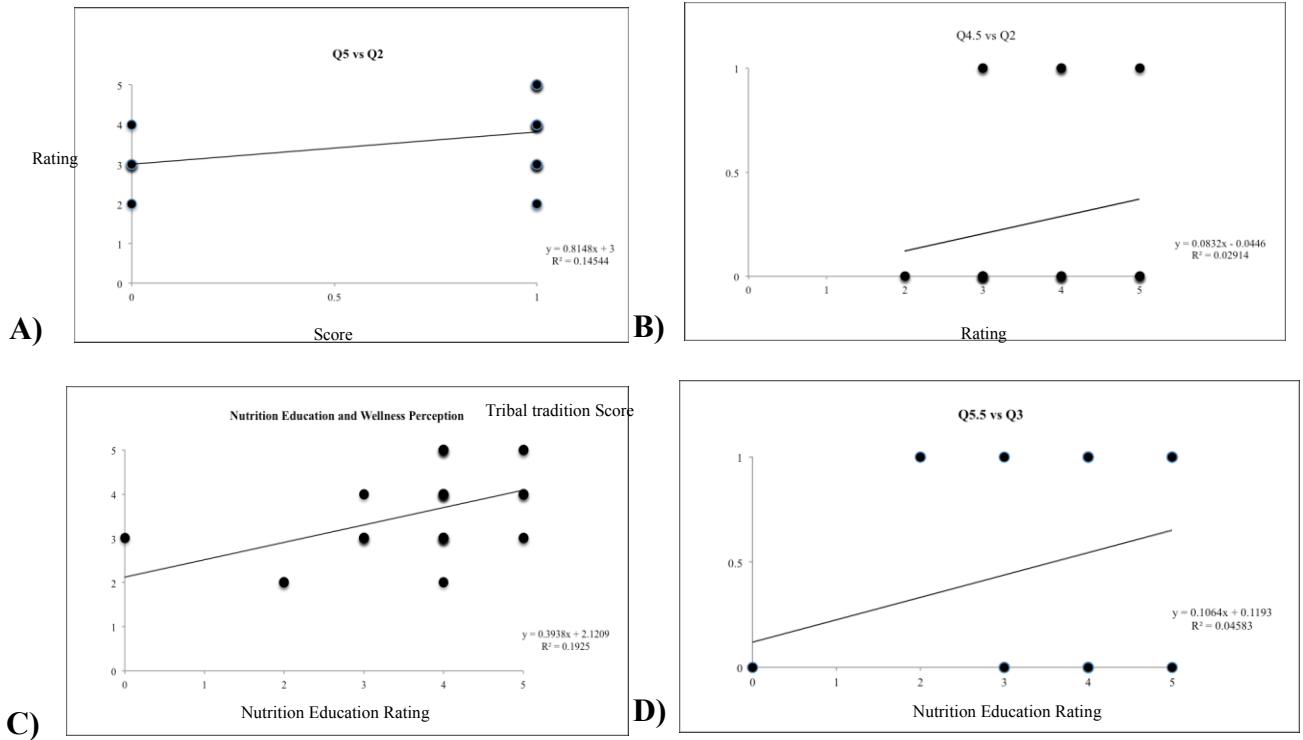
Figures 9-10: 9) Response to question 5, "Are you confident in your nutrition education?" 10) Response to question 5.5, "Please rate your confidence in nutrition education."

Overall, the general population said they were confident in their nutrition education and rated their confidence in nutrition education a 4 or higher (Figures 9-10).

Each of these situations will be discussed concurrently in the findings (Figures 1-10).

3.3 DISCUSSION OF FINDINGS

The following scatter plot graphs statistically represent correlations between survey questions one through five. Graphs that indicate a 1 represent yes and 0 represent no. Ratings are depicted 1-5; one indicates poor; two, fair; three, good; four, very good; five, excellent.

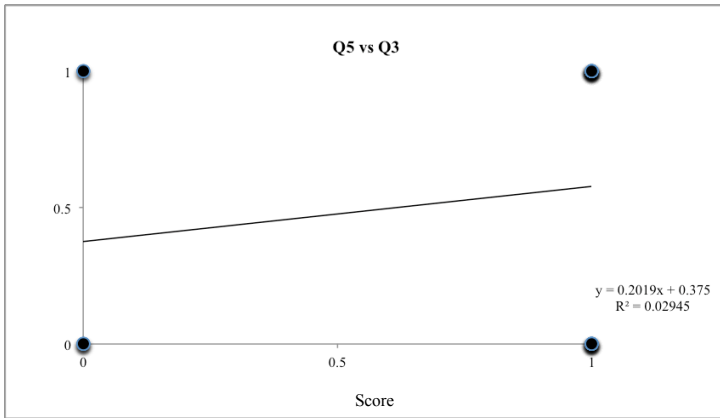


Figures A-D: **A)** Application of nutrition education and wellness rating (Q5 vs. Q2). **B)** Nutrition education and wellness perception (Q5.5 vs. Q2). **C)** Wellness rating and BMI awareness (Q4.5 versus Q2). **D)** Confidence level in nutrition education versus application of tribal traditions (Q5.5 vs. Q3).

Figures A-D revealed a majority of tribal members did not share substantial connections with their nutrition education and general wellness. For example, figure B revealed 97 percent of the survey population did not share a relationship with wellness and BMI awareness. Yet, 68 percent of respondents did not know their current BMI score when asked (see Fig. 7). BMI awareness influences health status because knowing your BMI score exercises obesity prevention. Figure C indicates 19 percent of the survey population parallel ratings of nutrition education and wellness. Figure D illustrates confidence level in nutrition education (x-axis) versus application of tribal traditions on a daily basis (y-axis). It exemplifies there is little connection with confidence level and application of tribal traditions on a daily basis. Overall,

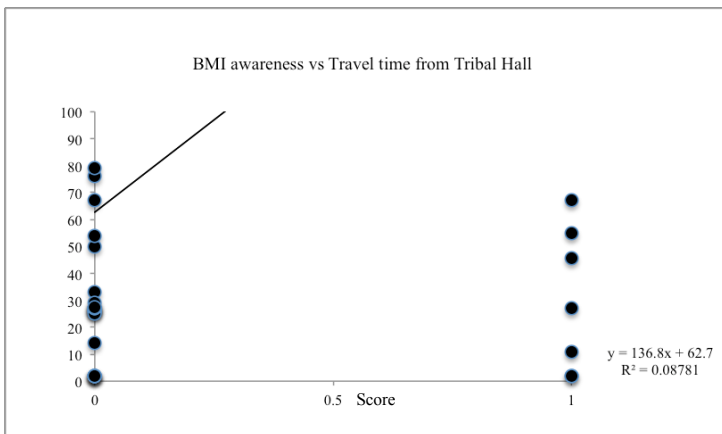
most respondents demonstrated in figures A-D that wellness and nutrition ratings do not share interpersonal roles in their current lives. These preliminary results help identify further valuable questions. It begins to ascertain ways the Acjachemen can integrate wellness with nutrition education concurrently, as both are integral factors of good health status and well-being.

Score



E)

Time (minutes)



F)

Figures E-F: E) Nutrition education confidence and tribal traditions (Q5 versus Q3). F) BMI awareness versus travel time.

Figures E-F represent how contributing factors of wellness, such as distance from tribal hall and practice of tribal traditions play roles in nutrition education. 3 percent of respondents shared confidence in nutrition education and application of tribal traditions. According to members, confidence in nutrition education did not affect tribal involvement (Fig. E). Figure F depicts BMI awareness (x-axis) and travel time from home to tribal hall (y-axis). Results indicate

an 8 percent relationship between travel time and nutrition vocabulary among tribal members (Fig. F). In sum, contributing factors such as application of tribal traditions and travel time from tribal hall do not significantly contribute to tribal member's perception of personal wellness. Wellness is multidimensional; it is important moving forward to find out tribal member's definition of personal wellness in order to meet tribal needs.

Preliminary statistical data helped me identify areas of improvement for Acjachemen tribal members and the community as a whole. Results were significant for identifying further areas of research, new data collection, and provides useful up-to-date information for the tribal community. Most importantly, my findings began to reveal a disconnect between Body Mass Index classification and personal awareness. As mentioned earlier, 71 percent correctly defined the word BMI yet 68 percent were unaware of their current BMI score. This relationship is critical to note because knowing the meaning of Body Mass Index and not knowing personal BMI score are indicators of overall well-being. Things to account for: in this calculation the amount of survey participants are lower, BMI is one nutrition vocabulary word, and inclusion of additional words would provide further indicative data. Furthermore, socioeconomic standing, education, and mental health also contribute to perceptions of wellness and health status (Hodge, 2011). In order to move forward in this research, I would like to discern these additional factors. As a youth tribal member, I hope to use these preliminary findings to understand what can be done for the community in the coming years.

IV. CONCLUSION

4.1 GATHERING FOR OUR HEALTH

Polóovisunla chamtáaxawnga means goodness in our bodies. Together, as Acjachemen members, it is our collective job to guide *chamtáaxawnga* with good food and good intentions. For tribal members, it is my goal to step away from western-centric approaches to nutrition education, utilize an indigenous-centric framework, and learn to educate about tribal foods consistent with the metabolism and beliefs of the Juaneño people. Our indigenous perspective inspires me to gather for tribal health due to the 38 percent gap found between nutrition vocabulary and personal application of Body Mass Index. This preliminary study is representative of the continual importance of approaches to nutrition education among the Acjachemen population in Orange County. Since wellness and nutrition education from an inner-tribal perspective is limited in Southern California, revised nutrition education is one step to introducing healthy eating habits. In this way, it is meaningful to decolonize the diet of indigenous populations with high rates of diabetes and obesity and decolonize the intricate ties within current Native diets.

On application of tribal practices, in response to questions three and five, many members expressed the kinds of tribal practices that took place in their daily lives and shared additional thoughts about what could be done within the community. In summary, tribal members shared they pray, sing, sage self, and go to sacred sites. They continue to thank our spiritual ancestors daily, pray to the Creator (our Lord), meditate for guidance, and to Mother Earth for her gratitude and thankfulness. An elder shared to stay balanced if problems approach, and to “always remember the Creator has a different plan”. Many tribal members also expressed interest in attending and participating in more spiritual community events and suggested they would like

to know more language and prayer through classes. Some tribal members shared they were still learning or did not know much about their heritage. Furthermore, members conveyed that time and availability throughout their daily lives proved difficult and that they never received enough guidance or information about the tribal traditions in their childhood. One member reflected on her mom cooking cricket and venison once a year with a lot of fat, flour, and pine nuts; saying they did not remember a lot from how to cook during their childhood and lacked the opportunity.

Spiritual and practical application in life is important to Juaneño members. This is expressed significantly in conversation and comments within the survey. It was regularly expressed that tribal practice at a young age is very important for our tribe and remembering most of all to pray to our Creator. In many ways, focus on Indigenous education is imperative for future Native populations in the Southwest. Among Native youth, “17.7 are obese compared to 14.7 percent for Hispanics, 10.6 percent for non-Hispanic blacks, 10.3 percent for non-Hispanic whites, and 9.3 percent for Asian/Pacific Islanders” and prior studies continue to illustrate the struggle of poor health status among Native people (CDC Database, 2011). Breaking the cycle can be done using educational and culturally appropriate methods, which is similarly recognized in this research. Additionally, revising approaches to Native health and integrating tribal-centric frameworks in future research can begin to mend tribal trauma from within. As Indigenous trauma throughout Southwest populations is present, continual research is necessary for identifying in-depth needs among the Acjachemen. This is a stepping-stone in tribal development and *polóovisunla* for our tribe.

My future endeavors include developing of a new tribal cookbook that includes meals containing higher amounts of micronutrients. It is important to balance a diet properly and in order to do so, consumption of proper macronutrients and micronutrients are essential to overall

health status. The cookbook will address answers to important questions such as, why high carbohydrate meals are detrimental? The issue with high carbohydrate meals is the amount the body fat that gets stored. To reduce the consumption of high caloric meals, introduction of a Native health cooking class and cookbook can begin to educate tribal members about proper healthy alternatives. A small study focused on Native health cooking in Colorado was done in partnership with the Colorado Springs Indian Center in Fall 2016. Some recipes are included in this research (See Appendices I). Each cooking class featured revised recipes geared towards the indigenous diet in the Colorado region. The recipes are healthy alternatives for maintaining an efficient diet and can be done for the Acjachemen. A Native health cooking class incorporated into the daily lives of members is a first step in combining nutrition education with tribal practice. Bridging the divide within my tribe and gathering for our health development are pivotal recommendations for Acjachemen members in 2017. A tribal member once said to me, “Our gym was our land. Our resources were in our ocean.” Culturally appropriate and nutritional consumption of food is key to changing the way Native populations see food today.

Keywords: *POLÓOVISUNLA* (pawloveechunlaw): goodness. *CHAMTÁAXAWNGA* (cham taw naw): in our bodies.

POLÓOVISUNLA CHAMTÁAXAWNGA

**FLESHY
FRUIT**

**LEAVES
AND
STEMS**

**FLESHY
FRUIT SEEDS
AND GRAINS
ROOTS AND
TUBERS
STEMS AND**

**ROOTS AND
TUBERS**

MEATS AND FISH

**ANCESTRAL FOODS: DEER, RABBIT, SQUIRRELS,
FISH, SHRIMP, CLAMS,**

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APPENDICES I-IV

I. NATIVE HEALTH COOKING

Figure 11.1 Wild rice instructions given to participants.

NATIVE HEALTH COOKING CLASS

1. WILD RICE



WHAT YOU NEED
Wild rice
Water

DIRECTIONS

1. 3 cups of water per 1 cup of wild rice
2. Cook for 50-60 minutes

HEALTHY FACTS ABOUT WILD RICE
Because of its high fiber content, wild rice keeps your digestion smooth and helps lower cholesterol. Wild rice is a good source of essential minerals such as phosphorus, zinc and folate, which give you energy and nurture your bones. Vitamins A, C and E are essential for overall health and immunity.

Figure 11.2 Summer Squash instructions given to participants.

2. BAKED SUMMER SQUASH



WHAT YOU NEED

1-2 Summer squash

Olive oil

Pepper

Fresh parsley

Cayenne pepper

DIRECTIONS

1. Preheat oven 350 degrees.
2. Chop your squash into large, chunky slices about 1/2 to 3/4 inch thickness.
3. Coat baking sheet lightly with olive oil.
4. Line up your squash slices. Don't worry about leaving any space between them. They'll cook fine together.
5. Add light coat of olive oil over the top of the squash
6. Sprinkle your spices of your choice
Some recommendation: pepper, fresh parsley, or cayenne pepper
7. Bake for 30-45 minutes, or until a light golden color to them, and you can easily push a fork through them.

HEALTHY FACTS ABOUT SUMMER SQUASH

Summer squash is a rich source of Vitamin A and C, magnesium, fiber, folate, and potassium.

It is also high in manganese, a mineral that helps the body process fats, carbohydrates, and glucose.

Figure 11.3 Bison meatballs instructions given to participants.

BISON MEATBALLS



WHAT YOU NEED

Bison ground beef
Red onion
Basil
Parsley
1 egg
Olive oil
Pepper, garlic powder
Fat-free feta

DIRECTIONS


1. Preheat 375 degrees
2. Dice up red onion
3. Chop basil leaves and parsley
4. Crack 1 egg
5. Put all contents in bowl
6. Mix in bison ground beef and contents together
7. Add pepper, garlic powder for flavor
8. Start creating small bison meatballs!
9. Put meatballs on baking sheet with olive oil
10. Last, cook on one side for 10 minutes and flip for 15 minutes

WHY IS BISON MEAT HEALTHY?

Grass-fed Bison provides nutrient dense, low fat, low cholesterol meat with as many Omega-3s per serving as salmon, and three to six times the amount of omega-3s as grain fed animals. It contains the highest-known levels of the fat-blocker and anti-carcinogen, CLA (conjugated linoleic acid).

Figure 11.4 Red cabbage slaw instructions given to participants.

RED CABBAGE SLAW



WHAT YOU NEED
1 head of red cabbage
Carrots
Green onions
Parsley
Dill
Sunflower seeds
Apple cider vinegar
Honey

DIRECTIONS

1. Shred cabbage
2. Shred carrots
3. Chop green onions, parsley, dill
4. Add sunflower seeds
5. Add apple cider vinegar to taste
6. Add honey to taste
7. Ready to eat!

HEALTH BENEFITS OF RED CABBAGE
One cup of chopped red cabbage has 28 calories, .1 gram of fat and 1 gram of protein. You'll get 2 grams of dietary fiber, which is 5 percent of the recommended daily intake for men and 8 percent for women.

II. ACJACHEMEN HEALTH AND WELLNESS SURVEY, GIVEN JANUARY 21ST,
2017



Mi'yu'um! This short 5-question survey will look at nutrition and wellness in our tribe,
We, The Juaneño Band of Mission Indians, Acjachemen Nation.

Let's gather and find new ways to have a strong 2017, such as using traditional Acjachemen food groups to support healthy eating. The answers you provide will be in a college thesis that is available to all tribal members **June 2017**. If you would like a copy, Please include your information at the end of this survey. Your participation is highly encouraged. **Please keep this page. Om pal oov!**

For further questions:

Juliana Hernandez

Juliana.Hernandez@coloradocollege.edu

626.991.6121

1. Please check your age group:
 - 18-24
 - 25-34
 - 35-49
 - 50-64
 - 65-75

- 76-80+
- Prefer not to answer

What city do you currently live in? Or write, "Prefer not to answer"

Our ancestors understood the importance of wellness before it had a name. Wellness can mean the absence of disease, interconnectedness with our culture in daily life... It is the balance with one's body, mind, and spirit to maintain good health status.

2. On a scale of 1 to 5 stars ★. 1 star = Poor, 5 stars □ = Great.
How would you rate your current wellness? Circle one.

- A. ★

- B. ★ ★

- C. ★ ★ ★

- D. ★ ★ ★ ★

- E. ★ ★ ★ ★ ★

3. Do you to apply our tribal traditions and spiritual practices in your daily life? **Circle one.**
 A. Yes
 B. No

OPTIONAL: Please briefly explain. No need to write complete sentences.

4. In regard to weight management, what does **BMI** stand for? **Check one.**
 Bi-monthly inventory
 Body Mass Index
 Base Metabolic Indicator
 Build, Manage, Invest
 Bioelectrical Management Impedance
Do you know yours? Check one. Yes No

5. Do you feel confident about your nutritional education?

A. Yes

B. No

Please rate your confidence level.

1 star ★= Not confident, 5 stars ★= Extremely Confident.

A. ★

B. ★ ★

C. ★ ★ ★

D. ★ ★ ★ ★

E. ★ ★ ★ ★ ★

Please see last page.

Additional Comments?

Thank you for completing this survey! The raffle ticket you received has been entered for a chance to win a \$35 gift card! Om pal oov!

If you would like a copy of this final paper: Please write your information.

Full Name:

Mailing Address:

Email:

III. ACJACHEMEN HEALTH SURVEY CONSENT SCRIPT

Juliana Hernandez
Santiago Guerra
Colorado College Department of Southwest Studies
719.389.6649
Juliana.Hernandez@coloradocollege.edu

*All statements will be made if there are no questions given by members.

Juliana (investigator): Mium, I would like to invite you to take part in a survey that will gather our tribe to better understand our health and well being. You must be 18+ to take part.

Example member question: What the study is about/for?

Juliana*: It is a short 6-question survey that will ask questions about well-being. This is an opportunity to evaluate our tribe's current understanding of health.

Q: What you will I be asked to do/ have to do?

Juliana*: Please fill out this short survey. It simple, easy, and will only take 5 minutes. After you complete it and hand it in. You will be entered in a raffle.

And/or

Juliana*: There are no anticipated risks to you if you participate in this survey, beyond those encountered in everyday life.

Q: Are there any risks and benefits? (Still will be stated without question of risk and benefit)

Juliana: There are no anticipated risks to you if you participate in this study, beyond those encountered in everyday life. After you complete the survey you be entered to win up to \$35 in gift cards.

Juliana*: Taking part in this study is completely up to you. If you choose to take the survey you can choose to skip any question. This survey does not mean you are giving up any of your legal rights.

Juliana*: The answers you put will remain completely anonymous and kept private. It will be kept in a locked computer file. The final report of this survey will be made available to the tribe in June 2017. It will not include your name or any other individual information by which you could be identified.

Juliana: Do you have any other questions?

Juliana*: If you have questions or want a copy or summary of the study results. Please contact me at the email address or phone number listed on the first page of your survey. If you have any questions about whether you have been treated in an illegal or unethical way, contact the Colorado College Institutional Research Board chair, Amanda Udis-Kessler at 719-227-8177 or audiskessler@coloradocollege.edu.

Juliana*: If you understand the above information that I just said. Would you like to take this survey?

Juliana: If yes, please say: *I understand the information and agree to take the Acjachemen Survey.* Om pal Oov!

IV. ANCESTORS



Image: (bottom left) Julia; (middle) Filomena; (right) Margaret Manriques, sister to Custodia Manriques Reas Ricardes, 3-13-30.



Image: (left picture) Pilar Filomena Rios sitting (?-1950), wife of Santos Eustaquio Ricardes, 11-8-1908; (right picture) Sitting (left to right) Maria Avila, Maude Morillo; Standing Filomena Rios (right).

