EXPERIENCES OF AMERICAN INDIANS IN NATURAL RESOURCE DEGREE PROGRAMS

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EXPERIENCES OF AMERICAN INDIANS IN NATURAL

RESOURCE DEGREE PROGRAMS

By

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Dissertation

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American Indians are a demographic who has been historically excluded from higher education and are still underrepresented, especially in the field of natural resources. The purpose of this research is to examine the educational experiences of American Indians in such programs. With respect to factors that may influence educational experiences, special attention was focused on the effect of traditional culture on their learning and the impact of the educational frameworks in their degree programs. The research design was guided by two research paradigms: indigenous research methodologies and hermeneutics. Thirty individuals stories and experiences were explored through the use of in-depth interviews and three individuals participated in a Talking Circle.

Interviews were analyzed at idiographic and nomethetic levels. At the idiographic level, interviewees had varying levels of challenge along their academic journeys and were categorized into smooth, intermediate, or challenging categories. Interviewees within the smooth category either had strong support systems or were employed by their tribes while pursuing their degrees. Interviewees in the intermediate category took additional time to mature and find their paths, faced issues related to having an Indian identity, or lacked preparation for working with tribes. The interviewees in the challenging category were failed by the academic system and often experienced overt racism within their academic experiences.

At the nomethetic level, there were three themes: Tribal Culture, People, and Vision. Tribal culture and having an Indian identity positively influenced as well as contributed to some negative experiences in interviewees’ academic journeys. Family and people within the academic system were significant people either positively or negatively impacting interviewees’ journeys. To a lesser degree, people within interviewees’ communities and professionals in the field of natural resources were also impacted their academic journeys.

Interviewees described their vision of a natural resource degree program for Native students starting with the program structure, as well as the curriculum and teaching methods. Students would have preparation for working for tribal agencies and would be able to pursue research with tribal emphases. They also had visions of a support system that would include various people such as staff and faculty, as well as mentors.
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Chapter 1: Introduction

Problem Statement

American Indians are a demographic who has been historically excluded from higher education and are still underrepresented. Recently, the rates of pursuing, continuing and completing higher education for American Indians are lower than any other racial/ethnic minority in the United States (National Center for Education Statistics, 2005). American Indians make up, in total, less than 1.0% of the student body colleges and universities, including Tribal Colleges and Universities (TCUs) and have the lowest graduation rates (Wright 1991, National Capacity in Forestry Research 2002, and National Center for Education Statistics 2015). American Indians are one of the most underrepresented in the fields of science and engineering (Turner and Myers 2000; Harvey 2001). In 2009, the National Science Foundation reported the proportion of Bachelor’s degrees in science and engineering by American Indians from 1997 to 2006 went from 0.6 to 0.7%, which was consistently the lowest among all racial/ethnic groups. Similarly, the proportion of Master’s degrees awarded in science and engineering from 1997 to 2006 was between 0.4 and 0.5%, which was also the lowest among all listed racial/ethnic groups. Doctoral degrees awarded actually decreased for American Indians in science and engineering from 1997 to 2006 from 0.3 to 0.2%, which was still the lowest among all racial/ethnic groups.

Higher education has been striving toward increasing diversity. Considering this goal, literature providing insights into American Indian successes in higher education can help institutions further develop their diversity plans. For example, an exploration of American Indian experiences in higher education can identify factors that either foster or impede the completion of their degree programs to inform institutions in the development and implementation of policies and practices that foster American Indian degree completion. Unfortunately, the literature on American Indians in higher education primarily utilizes quantitative data which can be statistically difficult to read and neglects including the voice and experiences of the people themselves.
Within the field of natural resources, there is a lack of minority students pursuing and earning degrees. There exists a long-standing problem with the recruitment and retention of minorities in forestry-related degree programs (Sample et al. 2015). There also is lack of racial and ethnic diversity in the leadership and membership within the wildlife profession (Kohl et al. in press).

As the field of natural resource management encounters more complex management issues and an increasing diversity of its stakeholders, it becomes more important to have a diverse workforce developing innovative strategies, as well as providing a more accurate representation of stakeholders. However, diversity in the workforce, specifically forestry-related fields, remains low even though research has shown diversity can promote a broader understanding of natural resource values and solutions (Kuhns et al. 2002, Schelhas 2002 Outley 2008, and Balcarczyk et al. 2015).

**Research Purpose**
The purpose of this research is to examine the educational experiences of American Indians in natural resource degree programs. This research will attempt to describe the experiences of American Indians in natural resource degree programs: to observe their initial goals; to identify factors that positively and negatively influence their educational experiences and progress toward their educational goals; and to evaluate the degree to which experiences and factors reflect common themes versus more individualized person-specific factors. With respect to factors that may influence educational experiences, special attention will be focused on the effect of traditional culture on their learning; and the impact of the educational frameworks in their degree programs, while the research will remain open to factors identified by the respondents as influential.

**Research Questions**
To begin to examine and understand the complexities surrounding tribal and non-tribal educational frameworks as they relate to the management and conservation of tribal natural resource several questions arise:
1) What factors, people, or experiences motivated or influenced American Indians to consider pursuing a degree in natural resource?

2) How do American Indian students characterize academic success and program quality/strengths? How does this match with what they experience in their academic programs?

3) How does tribal culture and identity influence American Indians intellectual development? How is it translated into their coursework?

4) What educational framework is used? Is there a tribal framework that is distinct from any non-tribal frameworks used in their educational institution? If tribal frameworks are used, do they differ across programs, and is it important for the educational framework to match with the individual’s tribal affiliation(s)?

5) How do tribal educational frameworks impact American Indian natural resources students as they complete their coursework and degree programs?

Definition of terms
Throughout this dissertation, I will use American Indian, Native American, and Native interchangeably. The term Indian is still used by many scholars and American Indian peoples today to refer to the Indigenous peoples of the Americas. The participants of this research will be self-identified as American Indian. The political nature of American Indian identity is not the focus of this research.

American Indians are tribal peoples who fall within the group of indigenous peoples. “Indigenous” is an inclusive description of all first peoples, who are unique in their own cultures but common in their experiences of colonialism and their understanding of the world (Wilson 2008). The term Indigenous has
been used as a way to indicate solidarity between Native peoples across the globe with special ties to place and an engagement with colonialism (Brayboy et al. 2012).

Shotton, Lowe and Waterman (2013) suggest using the term “Non-Native Colleges and Universities” to describe institutions that represent the predominantly White population also referred to as predominantly White institutions or mainstream institutions. The use of this terminology centers on the experiences on American Indian people.

Several participants discussed Traditional Ecological Knowledge (TEK). Berkes (1993) defined TEK as “a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. Further, TEK is an attribute of societies with historical continuity in resource use practices; by and large, these are non-industrial or less technologically advanced societies, many of them indigenous or tribal.”
Chapter 2: Literature Review
American Indians and Natural Resource Management

As American Indians graduate with degrees in Natural Resources and enter the workforce they have the potential to directly and indirectly affect the management and conservation of American Indians lands and resources. Although natural resource management regimes are not the focus of this research, it is valuable to consider the amount and diversity of land and resources American Indian tribes and Alaska Natives now control or have some level of jurisdiction over. The Native American Fish and Wildlife Society (NAFWS) provides the following statistics regarding the land and resources under tribal jurisdiction. “Federally-recognized Indian tribes within the lower 48 United States have jurisdiction over a reservation land base of more than 52 million acres. Alaskan Native lands comprise another 45 million acres. Some tribes control resources outside of reservations due to federal court decisions and voluntary cooperative agreements, which allow a co-management status between tribes and states. These lands are called “Ceded and Usual and Accustomed Areas” and equal over 38 million acres. Thus, tribal lands coupled with the “Ceded and Usual and Accustomed Areas” total a natural resource base of over 140,625 square miles, containing more than 730,000 acres of lakes and impoundments, and over 10,000 miles of streams and rivers. This land combined would constitute the fifth largest state in the United States.”

Diversity within the Natural Resources workforce

It should go without saying, the natural resource management workforce can benefit from more American Indians with the degrees and qualifications to help increase the human diversity. Organizations with the responsibility of managing natural resources have begun to prioritize human diversity within their workforce. One component of the Cultural Transformation of USDA includes a commitment to creating diversity in the workplace (US Department of Agriculture 2015). The first goal of the US Department of the Interior’s Diversity and Inclusion Strategic Plan is to “recruit from a diverse,
qualified group of potential applicants to secure a high-performing workforce drawn from all segments of American society” (Department of the Interior 2012).

Native students with degrees in natural resource related fields can help to increase diversity, as well as fill the needs within federal and tribal agencies where there will be an increase in retirements (Gervais et al. In Press). Recent data show a significant percentage of employees in natural resource agencies are over the age of 50 with just over half of the tribal forestry and fire staff within the Bureau of Indian Affairs (IFMAT-III 2013) and 40% of the US Forest Service and US Fish and Wildlife service (Renewable Natural Resources Foundation 2003 and Copeland 2011).

Natural resource managers deal with complex challenges and can benefit from a diversity within its workforce to increase the innovation of their management strategies. Also, having a more diverse workforce is a more accurate reflection of the diversity of stakeholders and their values and perspectives. American Indians with knowledge and experiences in the use of TEK, as well as the scientific knowledge acquired through their degrees in the field of natural resources can enhance opportunities for collaborative scientific advancement and help to address challenges in tribal communities (Bussey et al. 2016).

**Natives in Higher Education**

In 1932, after more than two centuries of American education being available to American Indians, only 385 American Indians had been enrolled in postsecondary institutions with only 52 having graduated (Brayboy et al. 2012). More recently, the rates of pursuing, continuing, and completing higher education for American Indians are lower than any other racial/ethnic minority in the United States (National Center for Education Statistics, 2005). American Indian students comprise 1.0% of the total enrollment in institutions of higher education in the U.S. (Brayboy et al. 2012).
Equally concerning is that American Indians are one of the most underrepresented in the fields of science and engineering (Turner and Myers 2000; Harvey 2001). In 2009, the National Science Foundation (NSF) reported the proportion of Bachelor’s degrees in science and engineering by American Indians from 1997 to 2006 went from 0.6 to 0.7%, which was consistently the lowest among all racial/ethnic groups. Similarly, the proportion of Master’s degrees awarded in science and engineering from 1997 to 2006 was between 0.4 and 0.5%, which was also the lowest among all listed racial/ethnic groups. Doctoral degrees awarded actually decreased for American Indians in science and engineering from 1997 to 2006 from 0.3 to 0.2%, which was still the lowest among all racial/ethnic groups.

History of Native Education in the United States
Prior to the imposed structures of formal education, American Indian families educated their own children. This education was taught by parents, grandparents, other community members, and tribal and religious leaders based on ceremonial traditions and presented informally (McBeth 1983). Knowledge was transferred from the older generations to the younger generations and by gender-based instruction. This knowledge was the education curriculum and included history, culture, and religion, which were part of the oral tradition of communication (Juneau 2001).

Traditional education occurred within the home and community through various teaching methods. Storytelling is one way Alaska Natives and other cultural groups transfer knowledge (Kawagley 2006). These stories contained their cultural values and were informed by the cycles and life rhythms.

In contrast, from the beginning, the formal process of education imposed on American Indians has been situated within a paradigm that was not their own (Cajete 2010). As a result, of American Indian education being controlled by Christian churches and the state, American Indians have been systematically denied their full Native identities (Woodcock and Alawiye 2001).
Broadly, these formal education efforts in the US occurred in three different phases: colonial period, federal period, and the tribal engagement and control period.

**Colonial Period**
The colonization process of America included alienating the Native population. One way this goal was pursued was through education. The first western European group to bring their form of education, in 1611 was the French Society of Jesus. In 1617 Moor’s Charity School, which later became Dartmouth College, offered an American education to Indians (Juneau 2001). This was followed by a long era in which Christian groups sought to promote their approach to education among the tribes through establishment of mission schools and other means. Mission schools were typically day schools and boarding schools. Day schools allowed students to attend school during the day and then return home at the end of the school day. Boarding schools retained the students on site because of the distance to travel home, or they were sties to which children from many tribal communities were shipped.

**Federal Period**
Following the mission schools, the federal government began to implement policies about Indian education (Jackson and Galli 1977). Shortly after the Declaration of Independence, the United States began issuing policies regarding American Indian education. Education was often a provision provided to Indian peoples through treaties with the U.S. Government in exchange for land and resources. The Northwest Ordinance of 1781 pledged the United States would provide suitable education for American Indians. Specific Federal Indian education policy began in 1792 with the Seneca Nation (Juneau 2001).

In 1802, Congress provided funding which allowed religious missions to flood reservations to provide educational services that had been promised to Indian peoples (Woodcock and Alawiye 2001). The treaty period ended in 1871 with more than 370 treaties having been entered into between the United States of America and various American Indian nations. Of those more than 370 treaties, approximately 120 specifically addressed the need for a formal education for American Indians (Wright et al. 1998).
Many of the federal policies of the late nineteenth century were meant to assimilate Indians into mainstream American life. When the U.S. government controlled education programs, generations of American Indians continued to be denied their identity (Deloria and Wildcat 2001). Early vocational schools practiced strict military discipline with the intent to educate Natives in a way that they would not and could not return to their people (Woodcock and Alawiye 2001). In 1879, Carlisle Indian Industrial School was opened as the first federal off-reservation boarding school. Over the next five years, Chemawa Indian School, Haskell Institute, and Chilocco Indian School were opened (Juneau 2001). Off-reservation boarding schools all provided a basic elementary education; English was the only language allowed; many schools provided a two-gender educational environment; military cadet training was mandatory; vocational training was within the curriculum; there was daily manual labor; and teaching of Christianity was essential (Hale 2002). Students often worked outside the schools in non-native communities as day labor. Boarding schools isolated American Indian students from their parents, communities, and traditions.

In 1887, the General Allotment Act (commonly known as the Dawes Act) was passed. This allotted tribal lands in designated quantities, which privatized Indian lands, made Indians citizens of the United States, and allowed surplus lands to be sold to the United States (Juneau 2001). Through specifics of treaties and legislation, such as the General Allotment Act, the United States strove to encourage Indians to assimilate by adopting a yeoman agricultural lifestyle (Isakson and Sproles 2008).

In 1926, Meriam reports analyzed the economic and social conditions of American Indians, as well as reviewed files and records of the history of Indian Affairs. The report stated most Indians were poor; their general health was bad; disease was prevalent; death rate and infant mortality rate were high; they had backwards economics; they did not have knowledge of the value of money and land; income encouraged idleness; and they were suffering and discontent (Juneau 2001). The Merriam report also
expressed dissatisfaction with the policy of forcing American Indian students to off-reservation boarding schools where the living conditions were poor. Poor housing and inadequate food often resulted in disease (Meriam 1928).

The federal government passed the Johnson O’Malley (JOM) Act in 1934 to allocate funding for American Indian students directly to the states that provided services. In the beginning JOM funds were put directly into the general operating fund of public school districts and were used to support both Indian and non-Indian students. By 1974 new regulations for the administering of JOM funds were drawn up. The JOM funds were meant to be supplemental to help meet the special needs of American Indian students. Parent advisory committees were required which helped shift the control of the funds from the state to American Indian groups (Reyhner and Eder 2004).

Public schools and non-Native colleges and universities have served many tribes. There was still a need to include tribally culturally relevant curriculum and viewpoints. Indian-controlled schools, schools with strong leadership and with a high percentage of American Indian/Alaska Native students, tribal colleges and universities, and institutions of higher education with American Indian Studies programs or other initiatives that focus on Indian students are more successful in educating American Indian students (Tippeconnic and Teppeconnic-Fox 2012). Here are a few examples of earlier primary educational institutions that were created to demonstrate how American Indians provided quality education with an emphasis on tribal languages and cultures in two different contexts: a reservation setting with one tribe and an urban setting with diverse tribal representation. In 1965, the Rough Rock Demonstration School was founded to fulfill the need of the Navaho people to maintain and preserve their traditional culture and heritage while providing a quality education at the same time (Josephy, Jr. et al 1999). In 1995, the Oneida Nation School was founded in Oneida, Wisconsin with the primary focus on the Oneida tribe’s values, concepts, and principles as a foundation for their educational program (Tippeconnic and
Survival schools were also created as an alternative to public schools and Bureau of Indian Affairs schools and to provide language instruction in Native languages. The courses are centered on tribal culture. In 1972 several American Indian Movement (AIM) organizers and local American Indian parents created the second survival K-12 school, the Red School House in Minneapolis, in response to the hostility in the public schools to provide relevant Indian curriculum in schools serving diverse tribal students. In Milwaukee, Wisconsin three mothers founded the Indian Community School of Milwaukee. The school is located in an urban community and serves approximately 15 different tribes. Their focus is on Native culture and values (Tippeconnic and Tippeconnic-Fox 2012).

**Tribal Colleges and Universities**

The idea for a tribal college was first introduced during the 1950s. TCUs started and represented a direct response to the problems that Indian students experienced at off-reservation institutions (e.g., financial aid limitations, cultural isolation and family/kinship considerations). There was a need to develop a local forum to discuss community and tribal issues and address future reservation challenges (Bordeaux 1990). The TCU movement was set into motion by major historical events such as World War II and the American Civil Rights movement. Indian people began to question the federal authority, which had controlled their lives (Stein 1990). In the 1960s and ‘70s tribes began to take advantage of self-determination legislation to promote educational efforts. The Tribal College movement began in response to “compulsory Western methods of learning, recurring attempt to eradicate tribal culture, and high dropout rates by American Indian students at mainstream institutions” (Tribal College Research and Data Base Initiative, 1999). Although universities eventually served all populations regardless of race and ethnicity—tribes formed tribal colleges to address the unmet needs of Indians by the non-Native universities. TCUs turned the balance of power of higher education of American Indians by placing control of their programs and curricula in the hands of American Indians themselves (Pavel et al. 2001). In 1968, the Navajo Community College was founded and chartered by the Navajo Nation. In 1972, it
was recognized that the unity among the small number of tribally controlled colleges was essential to promoting the tribal colleges as a viable option for Indian people in higher education and in stifling those who would use tribal differences to create havoc within this unique movement (Stein 1990).

Within the missions of many TCUs are the perpetuation, maintenance, and integration of culture (Pember 2008). TCUs often have the dual missions to sustain tribal identity and to provide knowledge about mainstream society (Bad Wound 1991). In the pursuit of fulfilling their missions, Tribal Colleges provide curriculum similar to that of non-Native institutions of higher education, but most also strive to fulfill the tribal aspects of their missions: “rebuild, reinforce and explore traditional tribal cultures, using uniquely designed curricula and institutional settings; and at the same time to address Western models of learning by providing traditional disciplinary courses that are transferrable to four-year institutions” (Tribal College Research and Data Base Initiative, 1999). They are also accountable to accreditation associations, program certification agencies, and their own students and their own Indian people. TCUs have to establish institutional credibility, which is often partially determined by the expectations of non-Native institutions and regional accreditation agencies (Bad Wound 1991).

TCUs are successful because they reflect local control; are community learning centers; and address the educational and related needs for tribal members in tribal communities (Bordeaux 1990). According to Abelman (2011), “Tribal colleges offer higher education that is uniquely tribal.” TCUs are well positioned to promote and transmit traditional tribal cultural values and beliefs through their curricular functions, organizational structures, and governing policies (Bad Wound 1991, Tippeconnic and Tippeconnic-Fox 2012). TCUs utilize tribal languages, tribal storytelling, elders as resources, and traditional practices to inform their academic programs and services, in addition to their being located in tribal communities where a rich array of cultural resources exist. Their programs of study, curriculum, and community engagement activities provide examples of the integration of American Indian culture in education. Also,
TCUs are chartered by tribes and governed by American Indian boards of trustees (Tippeconnic and Tippeconnic-Fox 2012).

The success of TCUs and failures of non-tribal institutions to serve American Indian students suggests non-tribal institutions can learn from the examples set by TCUs. For example, there is a greater proportion of American Indian staff and faculty than European Americans at TCUs compared to that of most non-tribal institutions. Many TCUs have decades of experience of providing education and services in tribal communities for tribal peoples. They have developed theories and practices about providing quality tribally-centered education they can share with other institutions of learning. Brayboy et al. (2012) suggested Institutions of higher education examine and explore what TCUs are doing to meet the needs of their students to inform their own strategies.

Cultural identity
The history of assimilative policies in Indian education reveals a continuous effort to destroy and replace American Indian identity. Identity development examines how human beings determine who they are and how their experiences help shape them. Having a strong identity leads to a healthy sense of self. Strong cultural identity has also been tied to achievement in college (Rolo 2009).

There are examples of how being identified as American Indian in higher education can create additional challenges. Negative recognition as American Indian can create negative experiences in classes as revealed by Johnson et al. (2011).

College Experience
Some of the challenges people face to get into college are high school completion, academic preparedness, college entrance exams, and financial resources to pay for college. Couple those challenges with the proportion of first-generation college-bound students attempting to navigate through the process; low teacher expectations; racist attitudes, assumptions, and practices of teachers
and school counselors; and the historical, cultural and political factors American Indians face in the pursuit of a college education, it becomes easier to understand some of the low statistics of college completion.

Once American Indians enter the higher education system their success can be directly affected by institutional policies, faculty and instruction, and the curriculum. The policies of institutions can work to either hinder American Indian students’ success through institutional racism and discrimination or policies can raise the visibility of American Indians by providing spaces for more culturally relevant experiences (e.g., having American Indian/Native American studies programs on campus). Faculty comes into the most contact with students as teachers, advisors, and mentors. Their attitudes towards American Indian students and teaching practices can also affect American Indian student success. The presence or absence of culturally relevant curriculum can also directly affect American Indian student success either negatively by its absence or positively by its inclusion (e.g., higher grades, higher self-esteem, and less likely to drop out).

Faculty and instruction, as well as the cultural content within the curriculum are of interest to this research. The two ideas are explored further in the following sections.

Faculty and instruction
Turner (2002) cites faculty diversification as directly related to education quality. For example, she suggests the more diverse the university faculty, “the more likely that all students will be exposed to a wider range of scholarly perspectives and to ideas drawn from a variety of life experiences.” It is suggested that “exposure in college to a diverse faculty along with diversified curricula and teaching methods produces students who are more complex thinkers, more confident in traversing cultural differences, and more likely to seek to remedy inequalities after graduation” (Hurtado et al. 1999; Smith and Associates 1997). Diverse perspectives in the classroom can positively affect active thinking,
intellectual engagement, and democratic participation (Gurin et. al 2002). Exposure to diverse ways of thinking as well as the standardly recognized views and formulations can expand thinking and problem solving (Warren et. al 2001). Faculty from diverse ethnic and racial backgrounds can also provide effective mentoring for students of color that most white faculty members are less prepared to provide (Davidson and Foster-Johnson 2001). Unfortunately, we lack American Indian full-time faculty within higher education to add to this diversity. Harvey (2001) reported American Indians comprise only 0.4 percent of the full-time faculty in higher education in the United States.

A lack in diverse faculty may not accurately reflect the diversity within the student population at institutions. This disparity can result in Native students experiencing racial discrimination by faculty members due to their implicit biases. Chapman et al. (2013) defines implicit biases as the influences of cultural stereotypes on how information about an individual is processed, which then leads to unintended biases. Native students may experience negative impacts of microaggressions from faculty members or others. Microaggressions are “brief, everyday exchanges that send denigrating messages to people of color because they belong to a racial minority group” (Sue et al. 2007).

Cultural Context
American Indian students pursuing higher education in natural resource and science fields can bring their cultural perspectives into management and research. Due to their mission of cultural preservation and perpetuation, TCUs with natural resource/science fields are more prepared and driven to provide a culturally integrated curriculum in comparison to non-Native universities. They also provide other cultural support not found at non-Native universities, which strengthens retention of American Indian students (Martin 2005). Out of thirty-eight TCUs I surveyed, twenty-nine institutions offer some type of science degree, certification, or training (e.g., Natural Resources, Environmental Science, Biology, Science, and Forestry). Of those twenty-nine institutions, seven institutions offer Bachelor degrees: Fort Berthold Community College (BS Environmental Science); Haskell Indian Nations University (BS
Environmental Science); Northwest Indian College (BS Native Environmental Science); Oglala Lakota College (BS Natural Science); Salish Kootenai College (BS Environmental Science, B.S. Forestry, B.S. Hydrology, and B.S. Life Sciences); Sinte Gleska University (BS Environmental Science); and Sitting Bull College (BS Environmental Science).

In addition to pursuit of higher education in natural resources/sciences with cultural significance or application, indigenous research methodologies provide an avenue for American Indian students and institutions with the objective of enhancing American Indian power in resource management and research. For example, the National Science Foundation funded the development of *A North Dakota Tribal College Faculty Model: Guiding Undergraduate Student Research in Science, Technology, Engineering and Mathematics* for mentoring American Indian students conducting research in STEM. The guide integrates indigenous knowledge and practices into the formal inquiry process.
Chapter 3: Methodology
This section describes how the research was conducted. First, is a rationale for the selection of guiding research paradigms. Then a description of the guiding research paradigms is provided followed by the proposed sampling, data collection and data analysis. Indigenous research methodologies and the hermeneutic paradigm informed the study design.

Rationale
The research design developed for this dissertation project was guided by two distinct but compatible research paradigms: an indigenous research methodology and hermeneutics. As an American Indian researcher working with American Indians, I find it essential to conduct the research in a way that is appropriate culturally and respectful to the tribal people being interviewed and represented. Guided by cultural values and beliefs, the indigenous research methodologies paradigm is compatible with my worldview. Also indigenous research methodologies provide a framework for appropriate research within indigenous and tribal communities.

Hermeneutics is an epistemology that is used in social science focusing on the study of people’s experiences (cf., Patterson and Williams 2002). Hermeneutics is based in part on the view that a person’s experiences are characterized by situated freedom. This phrase refers to the idea that there is commonality in human experiences attributable in part to the role the environment plays in shaping experience and to the shared genetic makeup of humans. At the same time, hermeneutics maintains that human experience is characterized by a degree of freedom that permits people to experience the same situations in variable and unique ways. Hermeneutics sees an individual’s experiences as always changing and open to new perspectives, and therefore seeks a research design that permits flexibility throughout the research process that is not observed with some other Western science research paradigms. The scientific credibility of the research of hermeneutics is measured in insightfulness, persuasiveness, and practical utility (Patterson and Williams 2002).
Indigenous research methodologies


Louis (2007) defines indigenous research methodologies as an alternative way of thinking about research processes. These methodologies are built on the foundation of circular and cyclical perspectives (Wilson 2008). The main goal of indigenous research methodologies is to ensure research is accomplished in a sympathetic, respectful, and ethical manner from an indigenous perspective (Kovach 2009). These approaches are fluid and dynamic and emphasize the cyclical perspectives.

The core values of indigenous research identified by Wison (2008) are relationship, responsibility, and reciprocity. Relationship-building and sharing and participating are important aspects of ethical indigenous research. Relational accountability requires reciprocal and respectful relationships between the researcher and the participants (and/or communities where research is conducted). Brayboy et al. (2012) describes reciprocal relationships as, “where communities act to support individuals and individuals act with the best interests of their communities in mind.”

I will use the normative philosophical commitments: ontology, axiology, and epistemology to describe the two research paradigms. The ontology, axiology and epistemology related to the indigenous paradigm are interrelated. Ontology is the theory of the nature of existence and asks, “What is real?” (Wilson 2008). Patterson and Williams (1998) define ontology from a philosophy of science standpoint as “normative commitments about the nature of reality, human nature and the nature of the human
experience.” Axiology is the ethics or morals that guide the journey toward knowledge and the judgment of what knowledge is worthy of the journey. Axiology asks “What part of this reality is worth finding out more about?” and “What is it ethical to do in order to gain this knowledge, and what will this knowledge be used for?” (Wilson 2008). From a philosophy of science perspective Patterson and Williams (1998) define axiology as the “goals underlying a particular approach to science.” Epistemology is the study of the nature of knowing and asks, “How do I know what is real?” (Wilson 2008). Epistemology is “the study of the canons and protocols by which human beings acquire, organize, and verify their knowledge about the world (Moore 1998). Epistemology is the methods, limits, and nature of human knowledge (Patterson and Williams 1998).

**Ontology**

How do indigenous research methodologies determine what is real? In an indigenous ontological reality is a process of relationships (Wilson 2008). Relationship is the kinship obligation (Henry and Pene 2001). Relationship is considered more valuable than the modern sense of efficacy, money (Meyer 2001). All things—human, animal, plant, and rocks are related (Suzuki and Knudtson 1992, Laduke 1999, Cajete 2000, Turner et al. 2000, Schelbert 2003, Harris and Wasilewski 2004, Louis 2007). Wilson (2008) described the relevance of several relationships: relations with people; relations with the environment/land; relations with the cosmos; and relations with ideas.

**Axiology**

How do indigenous research methodologies determine what is worth knowing more about or what is the research trying to achieve? The axiology of the indigenous research paradigm builds on the foundational concept of relational accountability (Harris and Wasilewski 2004, Louis 2007, Wilson 2008). Relational accountability reflects the belief of indigenous peoples that all things are related. Humans are related to and dependent on all creatures within the biosphere as well as the land, air and water (Deloria and Wildcat 2001, Reo 2011). With this in consideration, the researcher becomes responsible
for nurturing and maintaining the research, as well as being accountable to all relations (Louis 2007).

Also, relational accountability requires us to evaluate all aspects of the research process: how we choose what to study (topic); how we gather information (method); how we interpret information (analysis); and how we transfer knowledge (presentation) (Wilson 2008).

**Epistemology**


Another concept that is integral to indigenous epistemology is the relationship with the land (Suzuki and Knudtson 1992, Berkes 1999, Laduke 1999, Meyer 2001, Vincenti et al. 2004, Wilson 2008, McCubbin & Marsella 2009). For example, the tribal values and identity of the Blackfeet are sustained through specific cultural practices and specific landscapes. In the words of one of the Blackfeet tribal leaders, “Actually, the mountains have always been a part of our lives...I don’t care where you go in the United States or even in the world, for us, as Blackfeet or Piikani people, these mountains always represent that...You talk about Glacier, you can’t exclude the Blackfeet. You can’t, because Glacier is the Blackfeet” (Craig et al. 2012). Similarly, tribal members of the Flathead Indian Reservation also expressed cultural and spiritual connectedness values within the Mission Mountains that stretches through time connecting their past with future generations (Watson et al. 2011). The president of the Intertribal Timber Council and Director of Natural Resources with Yakama Nation, Phil Rigdon, describes this
connection: “Indians feel as though they are part of the land, or that the land is what makes us who we are” (Rigdon 2014).

**Hermeneutics**

**Ontology**
How does hermeneutics view the nature of reality? There are three ontological assumptions guiding hermeneutics: reality is context-dependent; meaning changes across time, cultures and individuals; and a view of human experience is characterized by situated freedom (Patterson and Williams 2002). As a result, hermeneutics accepts the existence of what, in essence, are multiple realities. Individuals may experience the structure in the environment differently due to, for example, cultural standpoints (Patterson and Williams 2002).

**Axiology**
How does hermeneutics determine what is worth knowing more about or what is the research trying to achieve? The goal of hermeneutics is *understanding* (Patterson and Williams 2002). Hermeneutics seeks understanding that is not necessarily generalizable or predictive across time and place. Rather, the goal is to provide an understanding of the nature and meaning of human experience that is within its context (Patterson and Williams 2002).

**Epistemology**
According to hermeneutic epistemology objectivity is not possible because unbiased observations are not possible (Patterson and Williams 2003). Interpretation bases meaning on context. Multiple realities exist within hermeneutics, which are influenced by time, culture, and individuals. This holistic perspective means interpretations are context-dependent (Patterson and Williams 2002). The use of interviews to collect an individual’s narrative is one way to study human experiences.
Shared characteristics between research methodologies

Indigenous research methodologies and hermeneutics have many characteristics in common. For example, Wilson (2008) worked extensively with Aboriginal Canadians and Australians to further develop an indigenous research paradigm. He ultimately views all knowledge as hermeneutic:

“To me, that is a key to our way of thinking and is a necessary ingredient of an indigenous epistemology, is hermeneutics. Because so much of what we do and think is based upon the context or relational accountability, maybe hermeneutics is a good English word to describe our epistemology. Interpretation of the context of knowledge is necessary for that knowledge to become lived, become a part of our collective experience or part of our web of relationships. So we contextualize in a conscious way.” (pg 102)

Both indigenous research methods and hermeneutics can be considered constructivist research paradigms where there is the belief in the possibility of multiple realities constructed through human interaction with the world. Reality is context dependent and can change over time and by individual.

Another factor linking indigenous research methodologies and hermeneutics is the prevalence of interviews as a means of gathering data and its parallels to the tradition of storytelling as a means of transmitting knowledge in indigenous culture. Both indigenous research methodologies and hermeneutics value the narrative, the personal experience, and the story.

“The act of sharing through personal narrative, teaching story, and general conversation is a method by which each generation is accountable to the next in transmitting knowledge” (Kovach 2009).

Storytelling was and continues to be an indigenous form of education (Cajete 2000, Wilson 2008).
Through stories we are able to teach lessons and offer advice without placing blame or being critical.
Tribal knowledge is passed down from one generation to the next through oral tradition (Deloria 1995).
Stories carry essential cultural beliefs and values from centuries ago forward through generations keeping the culture alive (Kovach 2009). The listener is allowed to create their own understanding. The use of interviews is one way for participants to share their experiences similar to telling a story (their personal narrative).

As interviewees told their stories, cultural protocols were followed throughout the research process. When appropriate, I participated in ceremonies for the purpose of aiding the research. The dissertation committee functions as mentors and elders in the academic realm. One Assiniboine elder has agreed to serve as a mentor and guide. She was raised by her grandmother and taught Assiniboine culture, protocols, and ceremonies. She has lived her life in a good way and has been a respected leader and helper to the people. She also has worked many years as an advocate for American Indian people across Indian country. She has been a student in a non-native university and worked professionally with multiple agencies and governments. Her vast knowledge and experience of both non-Native and Assiniboine culture make her an appropriate mentor and guide. Cajete (2000) acknowledges elders as “respected carriers of Native knowledge, wisdom, and experience.” One aspect of the research for which I relied upon the guidance of the tribal mentor is ‘sharing just enough’, meaning being respectful of the interviewees and their stories by sharing what is necessary to answer the research questions but nothing that is either special knowledge or might be inappropriate. The use of a tribal mentor is respectful of cultural traditions. Additionally, Kovach (2009) identified the Nehiyaw value of being prudent and respectful about what is shared. It is important to protect cultural knowledge and use caution with what cultural knowledge is shared in text.

Self-Location and Reflection

Within Indigenous Research Methodologies, it is appropriate protocol to include a self-location statement to give context to my lens as an indigenous scholar. I am an enrolled tribal member who grew
up on my reservation in the rural northern plains. I grew up engaged in outdoor recreation and
traditional lifeways with my family. My maternal grandfather graduated from college and then was a soil
conservationist. He had planted all the trees in the community where I attended first grade. I grew up
within a family of educators. I earned my Associate’s degree in the environmental sciences at tribal
college where I gained experiences as a research assistant. I earned my Bachelor’s degree in elementary
education and began a career in the field of education with experiences in reservation public schools
and tribal colleges. I earned my Master’s degree in organismal biology and ecology. My graduate
research was from a western research paradigm. While completing my Master’s degree, I worked for a
federal natural resource management agency. When preparing to enter my doctoral program, I sought
an integration of tribal and western knowledge systems in my education and research. My pursuit of
graduate degrees and doctoral research have been completed with the hopes of contributing to tribal
people, lands, and “resources”.

Study Population
The community or population of interest in this research consists of American Indians who have pursued
degrees in natural resources and related programs, which includes current students and graduates.

Study Sample
Purposeful sampling was used. Participants were deliberately selected based on specific criteria
(Higginbottom 2004). This criteria included being a self-identified American Indian who was in the
process of pursuing or had earned a degree in a natural resource related field. Access to the community
or sample population occurred through my participation in professional science associations and
attendance at tribal colleges (as a student, faculty, and staff member). The participants were all either
working on completing or had completed a natural resources or related degree. The participants had
pursued their degrees at TCUs, state universities, 1862 land grant universities, private universities,
community colleges, or a combination of the different types of institutions. Among the participants who
have completed their degrees, some were employed as faculty members and some were employed in natural resource management. There were thirty participants. There were sixteen females and fourteen males. Nine of the individuals’ highest level of education was a Bachelor’s degree. The list represents twenty different tribal affiliations.

The sample size was based on multiple factors. One of the goals of this research was to bring forward the voices and experiences of American Indians in natural resources degree programs. The use of qualitative research approaches was utilized. The sample size needed to be respectful of the balance between the time available and the depth and time needed to undertake the analysis (Whitehead 2003). Coordinating, transcribing, and analyzing in-depth interviews with that number of participants was challenging. There was a point of saturation during analysis where the amount of information was almost too much to thoroughly comprehend.

One goal was to collect diverse perspectives. To achieve this goal, the sample sought diversity on a variety of characteristics (e.g., age, years since graduation, tribal affiliation, gender, institution-type granting degree). The participants met these criterion. When participants agreed to participate, I set up an interview and written consent was established. After reading the Consent Form and agreeing to be a participant, I asked them to sign the consent form.
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Data Collection Protocol
The data protocol was designed with the indigenous research methodology’s guiding idea of research is ceremony. Wilson (2008) brought forward the idea of indigenous research as a ceremony. Research is a ceremony for building closer relationships with ideas. An important part of ceremony includes the preparations and specific rituals to get everyone in the same state of mind. I entered into data collection with the mindset of entering into a ceremony. In ceremony it is important to remember the purpose of the ceremony and be mindful of the participants. There are protocols that must be followed in ceremonies and in research.

I followed tribal protocols whenever possible and appropriate. Examples of tribal protocols include offering tobacco when requesting assistance, providing food and providing a gift for the knowledge that has been given (Trimble et al. 2008). Giving tobacco is a sign of respect and reciprocity (Kovach 2009).

Relationships are an integral part of indigenous and tribal epistemologies. I have built a number of relationships through my academic and professional career. Having existing or on-going relationships with participants is acceptable by tribal paradigms (Kovach 2009). The list of participants was a result of those relationships. I made every effort to ensure initial contact with potential participants was face-to-face to enable me to ask the potential participants to be involved in the research. When possible, I gave tobacco during the process of requesting participation. I provided an explanation of the research purpose, questions, and potential outcomes. I allowed time for the potential participant to ask questions regarding the research before agreeing to participate. When tobacco was accepted, it signified a contract between the participant and me.

I explored each individual’s stories and experiences in natural resources degree programs through the use of interviews. I also conducted one talking circle, which can be used as a form of focus group discussion. A focus group discussion is a form of group interviewing (Glesne 1999). Talking circles are a culturally congruent technique of data collection (Haozous et al. 2010, Momper et al. 2011).
I initially solicited participants by email or in person to participate in a one-on-one interview. As participants responded, I scheduled interviews, confirmed mailing addresses and current telephone numbers, and gave informed consent packages to the participants. Prior to face-to-face interviews taking place, I offered the participants tobacco.

I informed participants prior to the interview of their rights to end the interview at any time and that the interview would be recorded, transcribed, and analyzed. To be respectful of participants, I conducted interviews in the way they were most comfortable with or was most convenient for them: in person, by telephone, webcam, or via email. I scheduled interviews for one and a half hours. At the end of face-to-face interviews, I gifted participants to pay respect for their time and the information they share. I conducted follow up discussions in person, by telephone, and through email.

I used in-depth interviews to gather qualitative data on the topics of interest. I used a semi-structured interview format to collect the data. I developed an interview guide (Appendix 1). The interview guide was composed of open-ended questions with probes and follow-up questions. There were several different lead-in questions to help the interviewee’s understanding and to generate discussion. The initial questions were broad and minimally directive. Questions became increasingly narrow and focused. I submitted the interview guide to the tribal mentor prior to use for her review, as well as UM’s Institutional Review Board for authorization to conduct the research.

Face-to-face interviews were preferred, but I conducted Skype and telephone interviews when requested by the participant. I made every effort to accommodate participants’ needs in scheduling. During the interview, I also showed respect to the interviewees if their response includes a story. I listened to the story without interruption and asked follow-up questions at the end of the story as was appropriate (Trimble et al. 2008).

I audio recorded all the interviews. The shortest interview was twenty-five minutes and the longest interview was three hours. The average interview length was approximately an hour and forty-five minutes. To build trust with the interviewee, I offered to provide a transcript of the interview to the interviewee (Trimble et al.
During recorded interviews, I did not call the interviewee by name to maintain anonymity. I numbered the interviews and transcripts in order of when they were interviewed (e.g., Interviewee 1, 2, or 3). I recorded field notes immediately following interviews to record initial impressions and to record nonverbal components of the interview. I transcribed the first several interviews. By completing some of the transcription myself, I gained familiarity with the data. I used this experience to develop a transcription guide. The remaining interviews were transcribed by a transcription service. I will erase all audio recordings after the completion of the research. I coded transcripts by their corresponding number. I reviewed the transcript for accuracy. I stored transcripts in a secure database and locked in a lockbox.

Confidentiality was maintained by using participants’ interview number and the omission of names of colleges attended in the audio recordings, transcripts, notes, and reports. Audio recordings, informed consent, and demographic data forms were secured in the researcher’s possession, in a locked file cabinet in a locked office on the university campus (FOR 102). Computers with participant information were accessible only to those working in the office. Once the study has been completed and the participant’s personal information is no longer needed the documents containing that personal information will be destroyed by paper shredder.

Participants were given my university email address and personal phone contact. They were able to call into the office at any point in the study if they had concerns about the way the study was being run or how they are being affected by virtue of participating. Dr. Patterson has been the supervisor and contact for any concerns.

Upon completing individual interviews, I coordinated a small talking circle with three participants. In a talking circle, the participants sat in a circle and each individual had the opportunity to take an uninterrupted turn in discussing the topic (Wilson 2008). One of the participants of the talking circles had been previously interviewed and was attending the same institution as the other talking circle participants.

The talking circle began with everyone forming a circle and smudging (Becker et al. 2006). I gave a brief introduction to remind everyone the purpose of the talking circle. An object was presented for use during the talking circle. The object was continually passed to the left as each participant took a turn to respond to the
discussion topic/question. Participants had the freedom to remain silent and pass the object to the next participant (Running Wolf and Rickard 2003). Whomever held the object had the floor to speak their mind without limitation or fear (Haozous et al. 2010). After the object had gone to all the participants and was back in my hands, I summarized the things people had shared (Running Wolf and Rickard 2003). The object was sent around one more time to allow participants to respond to comments that had been made.

The talking circle was recorded (Momper et al. 2011). During recorded talking circles, the participants’ names were not used throughout the talking circle to maintain anonymity. The talking circles were transcribed prior to analysis. I took notes during the talking circle. I also recorded field notes immediately following the talking circle to record initial impressions and to record nonverbal components of the talking circle.

Data Analysis
Hermeneutics strongly guided the data analysis. The goal of analysis was to find commonalities and differences among interviews without sacrificing context.

Patterson and Williams (2002) focus on the concept of developing an organizing system as the basis for conducting a hermeneutic analysis of interview data. After the transcription and review of the first interview is completed, analysis began with a thorough reading of the transcript. Then coding began with making meaning units by identifying segments of text that expressed an idea complete enough to be examined separately. Attention was paid to the meaning units that provide insight to the research questions. Meaning units were grouped by themes. Throughout the analysis of interviews, Dr. Patterson and I discussed the interviews and he provided insights and perspectives I may not have been aware of or considered. The act of peer review and debriefing also acted to verify my data interpretations (Glesne 1999).

Visual aids (e.g., visual metaphors or models) were developed to help see, understand, and explain the relationships between the themes. A summary of the interview and interpretation were written in the form of a biosketch and reconstructed interview. Eventually themes across individuals began to become evident. I
revisited previous interviews to continue to develop understanding and insights that might not have been obvious with initial readings or that began to make sense after reading other interviews.

The biosketch and reconstructed interview were shared with the interviewees to make sure I was representing them and their ideas accurately. This sharing is important in building trust and is also called member checking which acts to verify my interpretation of the data (Glesne 1999).

My research sought to uncover and develop knowledge within an academic system but with a better understanding of cultural contexts. I approached the data with two similar but distinct lenses: as a researcher guided by two research paradigms and as a Native person guided by my cultural teachings. I worked to tell the stories of my colleagues in a good way that would be understood in both communities I am a member of: academia and my tribal communities. One of the goals of my research was to inform institutions of higher learning about strategies and systems that have effectively supported the success of American Indian students pursuing degrees in natural resources-related degree programs. Another goal of my research was to bring forward the voices and experiences of American Indians through sharing interviewees’ personal narratives or stories.

Within both methodologies (i.e., indigenous research methodologies and hermeneutics) employed in this research, story and personal narrative are valued as ways of acquiring and transmitting knowledge. Stories are also valued by my tribal culture. I upheld the value placed in stories and storytelling in my analysis.

**Organizing System**

I developed an organizing system to help understand the factors influencing American Indians’ choices to (1) enter the field of natural resources, (2) aspects of their academic experiences that supported their academic goals, and (3) the influence tribal culture and knowledge on their academic journey. The framing and vernacular I used in the organizing system needed to be appropriate and be able to communicate to both audiences (i.e., administrators, faculty, and advisors at institutions of higher learning and tribal communities).
The conscious selection of language also provided an opportunity for institutions of higher learning to enrich their understandings of cultural concepts and ethics of American Indian students.

I used the concept of storytelling in my analysis. I perceived the interviewees as the main characters who encountered a variety of challenges and had helpers or heroes who assisted her/him in overcoming those challenges in their individual stories. Almost all of their stories concluded with the completion of their degrees and joining the workforce. From the character’s experiences the reader/listener had the opportunity to discover lessons.

Keeping my research questions, goals, and intended audiences in the forefront of my mind, I developed an organizing system with three principal themes. The first theme was helpers. This organizing system used the concept of helpers to represent the various kinds of facilitators interviewees encountered and called upon for support. The second theme was hardships, which represented challenges they encountered. The third theme was lessons, which provided the interviewee an opportunity to share lessons they had learned about themselves, higher education, or the field of natural resources. The last theme was visions, which represented the ideal experiences interviewees dreamed of for future generations of American Indian students pursuing degrees in the field of natural resources. The following is a brief description of the reasoning used in the development of each theme.

**Helpers**

As I thought about the influencing factors in interviewees’ stories, it became evident some of the stories had prominent people or opportunities that had helped them during the pursuit of their degree. Within many tribal communities there is value placed on helping others. Growing up I remember being encouraged to be a helper to my mom and grandmothers. I also have participated in various kinds of traditional ceremonies. There was usually one person running the ceremony, but they also had several helpers who assisted with other parts of the ceremony. Those helper roles were not always in the spotlight but were vital to the success of the ceremony. From a tribal perspective, the help individuals provide each other strengthens individuals and communities. As I reflected on the interviewees’ stories and the people, situations, or services that had helped
or contributed to their academic successes, I thought about the value of helpers in my cultural teachings. It made sense from a cultural perspective to identify those factors as helpers. As students pursue their degrees they call upon or encounter various helpers or facilitators to aid them in their educational progress. These helpers can be tangible (e.g., people) or intangible (e.g., internal coping strategies).

Some interviewees shared stories of people or opportunities who had helped in substantial ways and are elevated to heroes.

**Hardships**
The Native students I interviewed about their journeys through higher education encountered challenges in the various forms (e.g., people and relationships, internal struggles, structures or systems within their institution, or unfair treatment like discrimination). I have classified these challenges as hardships.

Some interviewees shared stories of interactions they had with people who presented themselves one way (e.g., being a helper or someone they could trust), and then their actions showed those people to be deceptive like tricksters. Other interviewees had stories of individuals who significantly contributed to their hardships on their academic journey who were elevated from being classified as a hardship to the status of being a trickster. I grew up hearing some people called tricksters when they continually exhibited bad behaviors and took advantage of people. The cultural construct of a trickster can be found within some American Indian tribes’ stories. Some of the functions of trickster stories are to amuse, validate the culture, educate, impart morals, and offer teachings about social boundaries and structure. Through their actions, tricksters can teach people how not to behave.

**Lessons**
The theme of lessons gave the interviewees an opportunity to share lessons they had learned about themselves, higher education, or the field of natural resources during their academic journey. The lessons they share provides an opportunity to understand some of the relevant points Native students come to understand as part of their academic journey.
Visions
The last theme of the organizing system is visions. At the end of the interview, after the interviewees had shared their stories about their journeys through higher education including all the helpers and tricksters they had encountered, the interviewees were asked to share their vision of the ideal experience for Native Americans pursuing degrees in the natural resources field. The lessons they had gleaned from their own experiences could be used to inform higher education institutions seeking to strengthen their degree programs and services for American Indians.

Reciprocity
To fulfill the value of reciprocity I will keep in contact with the interviewees and share project updates. I will also share my findings with the communities I have worked with through the submission of articles to journals with a focus on Indian education such as the *Tribal College Journal, Winds of Change*, and other relevant journals. I will also present my finding at local and national conferences, as well as tribal communities and institutions of higher education.

Chapter 4: Idiographic Results and Discussion
Demographic Information
The thirty participants who constitute this sample represent tribal affiliations with twenty different tribes. Nine of the participants were either pursuing Bachelor’s degrees or their highest degree they had earned was a Bachelor’s degree. Fourteen of the participants were either pursuing Master’s degrees or their highest degree they had earned was a Master’s degree. Six of the participants were either pursuing Ph.D’s or their highest degree they had earned was a Ph.D. One of the participant’s highest degree earned was a Juris Doctorate. The average age of participants was thirty-eight and a half years old with the oldest participant being sixty-two years old and the youngest being twenty-four years old. There were sixteen female participants and fourteen male participants.
IDIOGRAPHIC SELECTION METHODS
Sampling and analysis goals
An idiographic or individual analysis was completed for each interview. The selection of interviews for discussion within the idiographic analysis was guided by the goal to represent the diversity of experiences among the interviewees. Rather than the sole goal of broad generalization and creating a non-existent average Indian, the idiographic analysis gives voice to rich and holistic characterization that is representative of individuals’ actual experiences, which could potentially get lost within the nomothetic analysis. One of the goals of the sampling method was to represent the diversity of perspectives and experiences. The sampling took into consideration multiple factors: the type of institution, natural resource related work experience, age, years since graduation, tribal affiliation, and gender.

Spectrum of academic experiences
I first sorted the interviews into three groups based on a spectrum representing the range of overall academic experience with one group representing one end of the spectrum with smooth academic journeys, one group representing the other end of the spectrum with challenging academic journeys, and another group representing an intermediate level of challenge/ease. Interviews that described extremely challenging experiences which could have understandably resulted in them not earning their degree were categorized in the challenging group. Interviews that described relatively smooth academic experiences with either significant helpers and no or few hardships were categorized in the smooth group. Interviews that fell between those two ends of the spectrum were categorized in the intermediate group. While multiple influences affected the paths of interviewees, each interview had a central or predominant theme that arose as the most significant factor to the interviewee’s academic experiences. Within each category on the spectrum predominant themes began to arise among the interviews. Grouping interviews according to the predominant themes enabled the selection of interviews which could be representative of the experiences.

Challenging category
Six interviewees had challenging academic journeys because they were failed by the academic system (I5, I22, I24, I27, I29 and I30). Two interviewees in the challenging category described overt racism within their
academic experiences by either faculty, employees within their tribal government, staff members or a combination of those people (I5 and I29). For example, Interviewee 29 experienced significant challenges to advancing within his tribal government due to the upper level non-Native administrators not supporting tribal members’ advancement in the system. The interviewee’s advancement in his education also factored in. At one point, the administrator removed the interviewee’s financial support for his graduate pursuits. He also experienced attempted exploitation by his Ph.D advisor, who tried to take credit for his research discovery. After completing his degree, Interviewee 29 became a faculty member in an Ivy League university and continued to battle racism from his colleagues. Interviewee 5 was admitted into a graduate program at a lower level than she had applied because the program had had previous Native students who struggled and did not succeed. She was further targeted by the program coordinator who required her to attend counseling and recommended her to attend Alcoholics Anonymous because she believed being American Indian was the cause of her struggles in her degree program. Both interviewees had to decide if they were going to let the racism they encountered push them out of their degree programs. They both completed their degrees but used different strategies to cope with the challenges of the racism they encountered. The systems of higher education as a system were structured to support racist treatment of the interviewee.

Interviewee 24 had no preparation or guidance for preparing for college from the beginning of her academic journey. When she began developing her graduate research, she found little support within her department to include tribal perspectives within her work. After completing her coursework for her Ph.D, she moved home and learned about the doubt her committee had regarding her ability to complete her degree from home. The academic system itself supported her committee and department’s lack of support. Although she had earned multiple degrees, she did not complete her Ph.D.

Interviewee 22 was pushed out of her doctoral program after being dropped by one of her advisors. She also had her tribal identity exploited by one of her co-advisors for the benefit of his own research funding. Interviewee 27 had earned his undergraduate degree from his tribal college and had positive experiences there. When he moved out of state to pursue a graduate degree, he experienced a lack of engagement and
financial support from his advisor. After giving him poor quality data to work with, his advisor suggested he remain a student for another year rather than graduating. His wife had to intervene and advocate on his behalf. The academic system supported their advisors rather than the students. Interviewee 22 completed her Bachelor’s and Master’s degrees, but did not complete her Ph.D. Interviewee 27 did complete his Master’s degree and began pursuing his Ph.D.

Interviewee 30 faced challenges of finding the field of study that fit her interests. When she began her academic journey in the natural resource field she experienced many significant personal traumas. She repeatedly reached out to the appropriate people at her institution and within her community for support and was given minimal, if any support. She utilized the justice system, the health care system on her campus, and her administrators within her college with inadequate results. Her ability to feel safe and supported went unmet. At the time of the interview, Interviewee 30 had entered the workforce with one course remaining to complete her Bachelor’s degree.

Smooth category
Eight interviewees had smooth academic journeys (I4, I17, I19, I21, I23, I25, I26, and I28). Two themes became apparent: employment by their tribes while being a student and strong support systems in their personal lives and on campus.

Smooth themes: Employment by their tribes while being a student
Within the smooth category, the theme of employment by their tribes while being a student contributed significantly to their successful academic progress (I4, I19, and I25). Interviewees 4, 19 and 25 were employed through their tribes in the field of natural resources while they were students. For Interviewee 25 that was the incentive to get him back into school. For Interviewee 19 that was the factor, which contributed to him becoming more serious about his academic journey and work harder to complete his degree.

Smooth themes: Strong support systems
Within the smooth category, the theme of strong support systems means the interviewees had people in their personal and academic lives relationships either within their personal life or their academic life who
contributed positively to their academic experiences (I17, I21, I23, I26, and I28). Interviewee 17 had the expectation and encouragement from his parents to pursue a college degree. While he was a student, he had combinations of staff and faculty who were supportive of his journey and helped identify opportunities for him. Interviewee 23’s friendship with a faculty member in the field of natural resources at his tribal college made his pursuit of a degree in the field a smooth transition into college. Interviewee 21 had strong support from her parents and brother to pursue a degree and specifically in the field of natural resources at a particular institution. While completing her coursework she also benefited from the relationships she developed with her classmates as they studied together. Interviewee 26 had a clear vision of her academic path. While in high school and throughout college, she had staff members who were supportive of her. Her family was also supportive of her academic journey. She was also active in student groups and maintained many of the relationships she had established through her participation. Interviewee 28 was encouraged by his family to attend college. When he began pursuing his Bachelor’s degree he found a faculty mentor who eventually became his Master’s advisor. He also felt a sense of community with the other Native students on campus. All the interviewees had clear visions of their academic plans, but had support systems along their journeys.

**Intermediate category**
Within the intermediate category there were sixteen interviewees. The intermediate category separated into three categories: extra time to mature and find their path, issues related to having an Indian identity, and tensions regarding their academic programs (I1, I2, I3, I6, I7, I8, I9, I10, I11, I12, I13, I14, I15, I16, I18, and I20). The intermediate category had a mix of significant factors impacting interviewees’ experiences, both positively and negatively.

**Intermediate themes: Extra time to mature and find their path**
The first theme in the intermediate category were interviewees whose academic journey was more challenging because of the additional time it took them to mature and find their path (I6 and I16). Interviewee 6 left his reservation to attend his state’s university. Then he returned to his home community and attended his tribal college. He ended up working for his tribe for several years and advanced through the ranks as far as he could
without a degree. Based on the suggestion of his brother, he returned to college and eventually earned his Bachelor’s degree. Interviewee 16 also struggled with his first attempt at college because of his maturity. When he became a father he quit school and began working hard labor to support his family. When he went back to college at his tribal college he had matured and was supported by the staff and faculty to find the correct academic path for him.

Intermediate themes: Issues related to having an Indian identity

The next theme within the intermediate category were interviews which described issues related to having an Indian identity (I2, I7, I8, I9, I11, I12, I13, I14, I15, I18, and I20). The interviewees within this theme often found their degree programs were not very diverse. Their classmates were often predominantly male and non-native, specifically mostly white, which contributed to feelings of isolation or loneliness. Interviewees sought out other Native students across campus or in their courses to combat feelings of loneliness or isolation. There were times when their fellow students treated interviewees with hostility. Some faculty members were not capable of including tribal perspectives or tribal knowledge in their courses. There were times when faculty members taught inaccurate information about Native people, which interviewees had to choose to confront with the possibility of causing conflicts with the faculty member or remain silent. Sometimes the philosophies and beliefs perpetuated by the curriculum within the degree programs did not reflect American Indian philosophies and beliefs, which created tension for some interviewees. Also, some interviewees expressed internal and external conflicts related to their Indian identities (i.e., being treated differently for not growing up on their reservation, having their performance judged based on being Indian, or being an Indian studying western science). For example, Interviewee 20 had always excelled academically all through school. He began to feel a conflict about his tribal identity early on in grade school when his achievements were always associated with his tribal identity. He continued to struggle with his Indian identity and identity as a Native rancher in the field of natural resources through most of his academic journey. Interviewee 7 was raised in the absence of a tribal identity and began to learn more about what it meant to him to be a Native person while he was in college. He began to feel a conflict between his Indian identity and beliefs and his academic pursuits in
the STEM field, which had a different worldview. Interviewee 2 also struggled with the expectations of higher education and his degree program because they conflicted with his cultural teachings. He felt it was not right for him to be expected to go against his teachings and beliefs to succeed within his academic program. The internal conflicts were resolved, but not all external conflicts had a satisfactory resolution.

Intermediate themes: Lack of preparation for working with tribes
The last theme within the intermediate category were interviews where the interviewee described a lack of preparation by their academic programs to work specifically in tribal natural resources (I1, I3, and I10).

Interviewee 1 grew up off her reservation and did not have strong cultural ties until adulthood. She left her first graduate program because the research did not align with her interests. While working on her Master’s degree at a different institution she interacted with a diverse array of tribal natural resource professionals, as well as with Native students more connected to their tribal cultures. Her academic coursework taught her scientific tools and techniques for management, but did not provide the experience or knowledge for working in tribal communities or with tribal governments. Interviewee 3 grew up on her reservation and also attended a few years of school off the reservation before attending college. She felt her college education gave her a strong western science background. However, once she entered the workforce she realized her college preparation had not provided her with the practical skills she would need in the field like reading maps. When she became a faculty member at her tribal college, she made sure to prepare her students with the scientific knowledge and the practical skills they would need when they entered the workforce. Interviewee 10 believed her degree program had rigorous coursework. Her research interests were supported by her committee and her advisor also encouraged her to include tribal knowledge. The tension she felt about her academic preparation was related to the focus her degree program had on the small scale rather than broader, ecosystem-level functions. She observed that many of her Native colleagues in the natural sciences tended to think on the larger, ecosystem-level scale. The tensions the interviewees experienced did not have significant negative impacts on the completion of their degrees, but did impact them professionally.
Idiographic Analysis Categorization Table

Interviews were categorized into three groups based on a spectrum representing the range of overall academic experience with one group representing one end of the spectrum with smooth academic journeys, one group representing the other end of the spectrum with challenging academic journeys, and another group representing an intermediate level of challenge/ease. Within the Smooth category, there were two themes interviews were classified into: employment by their tribes while being a student and strong support systems in their personal lives and on campus. Within the Intermediate category there were three themes interviews were classified into: extra time to mature and find their path, issues related to having an Indian identity, and tensions regarding their academic programs.

<table>
<thead>
<tr>
<th>Smooth</th>
<th>Intermediate</th>
<th>Challenging</th>
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</thead>
<tbody>
<tr>
<td>Employment</td>
<td>Support System</td>
<td>Extra time</td>
</tr>
<tr>
<td></td>
<td>I26, I28</td>
<td>I2, I7, I8, I9, I11, I12, I13, I14, I15, I18, I20</td>
</tr>
</tbody>
</table>

Idiographic Representatives

Six interviews were selected for more in-depth idiographic analysis to provide a context rich representation of Native student experiences in each category. One interview was selected from each of the categories and themes. Interview 5 will represent the Challenging category. This interview was chosen to represent this category because the interviewee had experiences at a tribal college and a non-tribal institution. Interviewee 5 also had positive experiences where she felt supported as a student and as a Native person, but also came up against overt racism and had to deal with immense grief. Interview 25 will represent the Smooth category and Employed by Their Tribe theme. This interview was chosen to represent this category because the employment opportunity by his tribe was part of getting him into college, but also enriched his college experience. After earning his degree, he continued to work for the tribal department he had been hired under while he was a student. Interview 17 will represent the Smooth category and Strong Support System theme. This interview
was chosen to represent this category because he had strong support systems at home, as well as within his academic experiences that contributed to him having a smooth academic journey. Interview 16 will represent the Intermediate category and the More Time to Mature theme. This interview was chosen to represent this category because he entered college right out of high school and ended up stopping out. After working for a while to support his family, he decided to go back to college, but it still took him a while to figure out his academic interests. Interview 18 will represent the Intermediate category and the Issues related to Indian identity theme. This interview was chosen to represent this category because she had a supportive environment in her tribal college, but when she transferred to a non-Native institution, she encountered racism, microaggressions, and other negative experiences directly related to her tribal identity. Those experiences were painful but did not stop her from earning her Bachelor’s degree and transferring to another institution to earn her Master’s degree. Interview 10 will represent the Intermediate category and the Lack of Preparation for Working with Tribes theme. This interview was chosen to represent this category, because she was able to do some of her research with a tribal government and then became employed by a tribe, but her academic preparation did not include some of the necessary skills and knowledge for working for a tribal entity. She had to learn those things on the job and was fortunate to have a mentor who helped her. Please note, any names in excerpts have been changed.

**Idiographic Analyses**

**Challenging: Interview 5**

Interviewee 5 (I5) was born and raised on her home reservation. Growing up, she was greatly influenced by her outdoor experiences with her father and grandfather, as well as tagging along with her father on his job. Because she was a single mother, she was a non-traditional student. She earned her Bachelor’s degree at her tribal college and her Master’s degree at a non-tribal institution. Her experiences at the two different institutions were very different from each other with the first being very positive and supportive and the other being full of challenges. Upon completing her degrees, I5 became employed by a federal agency in the field of natural resource management.
Helpers
I5 had helpers who contributed to fostering her interest in the field of natural resources, her choice of institution, and her positive academic experiences.

Interest in the field of natural resources
I5 had some interest in sciences from an early age. She also had a variety of experiences with her family and schools that fostered her interest in the field of natural resources.

Innate interest and experiences with family
Some of the first helpers who influenced I5’s interest in the field of natural resources were her own natural interest in science and experiences with natural resources with her father and grandfather. I5 had a great interest in science from an early age, which her parents fostered one year by giving her a microscope for Christmas instead of dolls like her sisters (excerpt T5-1 and T5-7). She spent a significant amount of time with her grandfather and father outside fishing and hunting (excerpt T5-2). She also spent a significant amount of time with her father at his job in the field of natural resources (excerpts T5-3, T5-4, T5-5, and T5-6).

Experiences in grade school
As she became school age, I5 was able to participate in a few specific events, which were also helpers who fostered her interest in the field of natural resources. The annual event her tribe hosted for schools across the reservation with natural resource-related stations and cultural stations was a significant event she attended multiple years with her school and with her father who would help with the event (excerpts T5-8, T5-9, and T5-10). She also participated in several different summer camps, which helped to foster her love of science and learning (excerpt T5-11). Through grade school and eventually college, a specific teacher also saw I5’s interest in science and natural resources. He was an academic hero for her who provided encouragement and opportunities for her to further develop her interests and skills (excerpts T5-12 and T5-13).

Exposure to tribal sovereignty’s impact on resource management
When I5 was a young woman, some of the helpers that fostered her interest in the field of natural resources included learning about tribal sovereignty and her desire to protect the environmental quality of her homelands’ land and natural resources for her son and tribal communities. I5 believed tribal people have the
ability to exercise their rights in environmental arenas to help keep tribal lands pristine for future generations (excerpts T5-14, T5-15, and T5-16). The connection that the land and resources sustained her tribes’ diets and also culture was one helper that made her want to go to school to learn more about preserving and managing her tribes’ natural resources (excerpt T5-16).

Choice of institutions
When I5 began to consider where she would attend college there were aspects of her tribal college that made it a sensible choice. Her tribal college was more accommodating to non-traditional students, which made it easier and more comfortable for her to attend. She also had an academic hero who helped to retain her as a student at her tribal college. When she was considering where she would attend graduate school, her research interests guided her choice of institution. Location was another helper that contributed to her choice of both her undergraduate and graduate institutions.

Accommodating to non-traditional students
After graduating high school I5 attended two years of college at her local tribal college in their general science Associate’s program. Then she attended a nearby university for one year in a different STEM program not related to natural resources, but went back to her tribal college when the program ended (excerpts T5-17). There were a couple of helpers that guided her choice to attend her tribal college. One of the first helpers was that her tribal college was more accommodating to non-traditional students. Considering her limited financial resources as a young single mother, the cost of attending was reasonable. Since the tribal college was located in her own community, she already knew many people and had family nearby, so she felt comfortable and supported there. The other students were similar to her: young mothers, other Indian people, or people with the same interests because they grew up the same way as her (excerpt T5-19). Her tribal college was more accommodating to non-traditional students and provided a comfortable learning environment, because it was in her own community, she knew many people there, and the other students had similar lived experiences as her.
**Academic hero**  
I5 took a break from college after returning to her home community from the nearby university. She ended up going back to her tribal college when her academic hero hired her to work in his lab. In reflection, she suspected he tricked her into going back to school, but she wanted to continue working in his lab. She enjoyed being back at her tribal college for the same reasons as when she attended there the first time: people in the same place, in the same situation, grew up the same way, and same identity (excerpt T5-20).

**Research interests**  
After graduating with her Bachelor’s degree, I5 decided to go to graduate school to pursue a doctorate. She applied to seven different universities and was accepted to multiple institutions’ Ph.D programs (excerpts T5-21 and T5-22). There were two helpers, which influenced her choice of institution she ended up attending. First and foremost, there was a female professor whose work I5 had become aware of at conferences. I5 liked the kind of work the professor was doing and especially that she was working with tribes. She wanted to work with her because she felt from her professor’s experiences she would learn how to conduct research within and outside of the university (excerpts T5-22 and T5-23).

**Location**  
I5 also felt the location of the institution in the northwest would make it easier for her to work with tribes (excerpt T5-23). She was admitted into their program, but only as a Master’s student. Part of their reasoning was related to her being native, which motivated her to go there and prove their perceptions of Native people as wrong (excerpts T5-22, T5-24, and T5-40).

**Academic Journey**  
There were many aspects of I5’s experience at her tribal college, which helped her to complete her degree, prepare her for graduate school, and prepare her for entering the workforce.

**Composition of the student body**  
One helper that made I5 feel comfortable at her tribal college was the composition of the student body. Most of the other students were Native and had grown up with similar experiences as I5 (excerpts T5-19, T5-20, and T5-25).
Faculty and academic preparation
The faculty were also helpers for I5 as she worked on her degree at the tribal college because they had their education, as well as the practical field experience. The faculty understood the things their students would need to prepare them for the workforce (excerpts T5-26, T5-27, and T5-30). The way the faculty taught provided students with practical and hands-on learning experiences (excerpt T5-36). When she had completed her degrees and began working for a governmental agency, she was able to apply things she had learned at her tribal college about working with tribes and tribal knowledge (excerpts T5-28, T5-29, and T5-35).

Engaged faculty
Another helper at I5’s tribal college was that her faculty and advisors who were available and engaged in her academic progress (excerpt T5-31 and T5-32). Her tribal college also had many resources available for students to use. I5 was able to take advantage of those resources and gain valuable lab experience, which she learned was more difficult for her graduate school colleagues to gain in their undergraduate experiences (excerpts T5-33 and T5-34).

Support systems
I5 earned good grades her first three semesters (excerpt T5-38), but the remainder of her graduate school experience ended up being filled with many hardships (T5-39). Two helpers that contributed to her being able to overcome those hardships were counseling and finding other Native students on her campus to build a support system. She felt her faculty could not understand her, especially as a Native person. It was hard for her to seek help from them, because she was aware of some of their preconceived beliefs about Native people. The campus counseling program was able to be a neutral party in which she could confide. The other Native students on campus were having similar experiences as I5, so their group shared a sense of camaraderie and supported each other (excerpt T5-37).

Hardships
Program expectations
One of the first hardships I5 confronted when she entered her graduate program was being admitted into the program at a Master’s level rather than a Ph.D because of being Native and battling the expectation that she
would not do well because of the program's previous experience with a Native student's poor performance (excerpts T5-22 and T5-40).

**Less Native people**
I5 had left a small community on the reservation to attend graduate school in a much larger and more diverse community. She encountered fewer Native people in her new community, which was another hardship she faced (excerpt T5-41). The lack of Native people in the community and on her campus also presented other hardships for I5.

**Tokenized**
I5 felt she became a token Indian who was expected to speak on behalf of all other Native people. Many times it felt as though others assumed that because she was Native, she had a very intricate and internal connection with the environment which she should be able to easily explain to them (excerpt T5-42).

**Difference in academic preparation than colleagues**
Another hardship I5 faced in the classroom related to the differences she observed between herself and most of her colleagues. The majority of the other students had very similar experiences to each other, they had attended bigger schools for their undergraduate degrees, were mostly men, had the same kind of families, and had the same kind of academic training, which were different from her own background and experiences (excerpts T5-43 and T5-49). The kind of academic preparation she had in her undergraduate program had been hands-on and practical but did not prepare her as well as her classmates in her graduate program (excerpt T5-45). The content of her courses was very analytical and was taught in a way that made it challenging for I5 to understand how to apply the knowledge, which had been important to her to be able to understand how everything would impact her family or community (excerpt T5-47 and T5-48).

**Language barriers**
Another hardship that contributed to I5’s struggles with her coursework was some of her instructors were not from the United States and the language barrier made it hard for her to be able to listen and decipher their lectures and then learn and remember the content (excerpt T5-48).
Lack of support from her advisor
I5 chose her graduate program largely because of a specific faculty member with whom she wanted to work. She was accepted into the faculty member’s lab, but encountered a few hardships related to her advisor and her research project. Her advisor would travel for months and be out of contact, which was a stressful hardship I5 had to deal with. Her desire to work on a research project with Indian people became impossible. I5 ended up working on a project in a community with similar demographics to her own community (excerpt T5-46).

Graduate program manager
The biggest hardship I5 encountered in her graduate program was in the form of a trickster. A woman who was her graduate program manager made many assumptions about I5 and her academic performance based on her beliefs about Native people. This woman would comment on I5’s poor performance and relate it to how white people had mistreated Indian people. She did not ask if I5 drank but signed her up for Alcoholics Anonymous. She even signed up I5’s sister who had no affiliation with the university for Alcoholics Anonymous. She would schedule I5 appointments at the mental health clinic and make I5 tell them all her problems in front of her. There was only one other Native student in her department and the woman treated her similarly (excerpt T5-51 and T5-52).

Lack of accommodations related to diversity
I5 observed a lack of tolerance and understanding regarding issues of diversity at her institution. For example, I5’s grandmother passed away while she was in the midst of her coursework. The loss of her grandmother was a significant hardship itself, but the lack of support she received from her institution during this time was an additional hardship. Her instructor refused to make an exception for her to return home to take care of her grandmother’s funerary proceedings, which her grandmother had asked her and her sister to do for her. I5 asked her department for help but had no one to advocate for her. She knew religious holidays were on the university’s calendar from the cultures of people who made significant monetary donations, which she felt was unfair. She did not leave to attend the services, which negatively impacted her coursework and her sister (excerpt T5-53). She got support from another student who had been there for a long time, because there had
been no one advocating for them (excerpts T5-51 and T5-54). Other departments and labs on her campus were better at supporting diversity. One lab across the street from her lab had many students from her tribal college, as well as other students from underrepresented groups who all seemed to be doing well and enjoying their classes while she and her colleague struggled across the street in a different department. She had suggested her department go and learn from them but they never did (excerpts T5-55 and T5-56).

**Lessons**

As I5 journeyed through higher education and became a professional in the field, she learned many lessons about herself, her beliefs, her field of expertise, higher education, and the tie between tribal sovereignty and natural resource management.

**Future Ph.D.**

After earning her Bachelor’s degree, I5 had planned on pursuing her Ph.D but ended up starting with a Master’s program, because the institution she wanted to attend admitted her into their Master’s program rather than their Ph.D program. Her experience earning her Master’s degree had been full of hardships, which left her questioning her own capabilities and not as enthusiastic about pursuing a Ph.D anytime soon. She had confronted the most racist people she had ever met in her graduate program. When she does consider pursuing a Ph.D, it is with the intention of replacing the ignorant people she had to deal with so she can be a person to help others get through the program (excerpt T5-57). For the time being, I5 is content working for a federal agency in the field of natural resources gaining experience with the intention of returning home to work for her own tribe. She will be able to return with the education and experience to make her qualified rather than people suggesting nepotism since both her parents work in offices where she would like to work (excerpt T5-58).

**Value of experiencing life off the reservation**

I5 reflected on her own experiences and shared her lessons with her younger brothers to help suggest a path for them through higher education. She believes it is important for them to have some experiences off the reservation, but not be gone forever. Those experiences can help them learn how the rest of the world operates. She learned about people’s perceptions of Indians and had opportunities to refute the
misperceptions. The distance also allowed her to view her tribe and their resources from outside the community to decide what was real. She suggested her brothers consider attending a non-tribal institution to gain experience with the tools and theoretical knowledge they might not gain at a tribal college (excerpt T5-59).

**Agency and tribal consultation status**

While working for the federal agency, I5 has learned lessons about the agency’s interactions with tribes and tribal knowledge, as well as the attitudes within the agency regarding tribes. The agency has been making efforts to work with tribes in their region to learn about the tribe’s traditional practices for re-seeding plants the agency uses in restoration projects (excerpt T5-60). As a Native person working for the agency, I5 has been able to understand both sides of the interactions between the tribe and the agency. She can understand the tribe’s hesitancy to collaborate with a federal agency that had historically benefitted at the cost to the tribe and has had ignorant employees who did not understand tribal peoples’ connection to the land and resources, and more importantly did not understand tribal sovereignty (excerpt 5-61). As an employee of the agency, I5 observed changes in attitude of other employees within the agency regarding how they work with tribal knowledge that is shared in a respectful way (excerpts T5-62 and T5-63).

**Role of Native people in natural resources**

Her academic and professional training shaped her views about Native people in the field of natural resources. She believes Native people working in the field of natural resources have a greater responsibility to act on behalf and advocate for all the traditional uses and values of natural resources because they have the dual understanding of the laws, regulations, and policies, as well as the traditional cultural practices (excerpt T5-65). For example, her degree and work exposed her to how one tribe used research to guide their resource management guidelines specifically related to traditionally used resources (excerpt T5-64). Now I5 is acutely aware of traditional uses of natural resources, how they are impacted by natural resource management guidelines, and what that means to the tribal people.

*Vision*
I5’s experience pursuing her graduate degree was very challenging however, a lab across from hers was very successful at supporting Native students. From observing their lab and contrasting it with her own experiences, I5’s vision of an ideal educational experience for Native Americans pursuing degrees in the field of natural resources would include a diversity of students and faculty. The students would see themselves reflected in the faculty or at least a closer depiction than a white male who has spent the last thirty years working in Ivy League schools, then ended up at another institution and is running a big lab. It would be hard to identify with that person. There would be ample resources available and a space for all of the students to be together. Furthermore, students would all have tribal related projects, which can make it meaningful to them. From her experience, when she left home she could have stayed home and gotten a job that helped people there. Instead, she left home and she was in this strange place learning all these abstract ideas with a project that was not going to benefit any of the people she left when she moved to attend college. Her research was so obscure that its applicability was reduced, which made it hard to make a beneficial connection to her home and people. She thinks there should be a lab with many Indian students, and they would have resources and a space to occupy (excerpt T5-67). By having more Indian students together, the students would have someone who is their peer and can understand what the other person is going through and support them. She also believes the current system her tribal college has is fine the way it is because it gives their students practical and lab experience so the students have more practical work skills than their counterparts from other universities (excerpt T5-68).

Intermediate: Tension regarding academic preparation: Interview 10
Interviewee 10 (I10) did not grow up on her home reservation but did remain connected to her family there. As a child, she spent a lot of time outdoors with her family and learning about natural resources from her father through their subsistence and recreation activities. Her parents were the primary supports for her as she prepared to enter college. It took I10 a while to find her path into the field of natural resources. I10 earned her Bachelor’s and Master’s degrees from the same university. Her academic journey was mostly positive with several mentors and a strong support system. One aspect of her degree program that was challenging for her
was the focus on the smallest levels of natural systems, which was not the way she or her Native colleagues thought about ecology. After earning her degrees, I10 returned to her reservation and became employed by her tribe in the field of natural resources. Her academic preparation has been rigorous and her thesis research had integrated TEK, but that did not prepare her for working for a tribe in natural resource management. She had to learn how to navigate the tribal government system while she was on the job.

** Helpers **
I10 had helpers that contributed to her interest in the field of natural resources, her choice of institution and her positive academic experiences.

** Interest in the field of natural resources **
I10’s experiences in the outdoors with her father instilled her passion of conserving natural resources. When she first entered college she became dissatisfied with her first field of study and she realized she wanted to work with fish, which set her on the path of pursuing a degree in the field of natural resources. She felt a desire to protect natural resources for future generations so they could have similar experiences outdoors to her.

** Experiences in the outdoor with her father **
I10’s father took her outdoors throughout her childhood (excerpt T10-1). Her family went camping and fishing almost every weekend (excerpt T10-3). When she would be outdoors and in nature she always felt more spiritual and connected with the Creator. It calms her to be outside and around rivers (excerpt T10-1). Her father taught her in a traditional way of being based on how he was taught when he was little (excerpt T10-20). When she would be hunting with her father he would show her interesting things like rare species or look at tracks of other animals or other animals scat. She learned to track and identify different species. So, when they went hunting, they were not solely focused on getting a deer. They would observe the snowpack and talk about if it was going to be a dry year or not (excerpt T10-21).

** Desire to protect natural resources for future generations **
I10 began to feel very passionate about fisheries, rivers, conserving them, being a good steward of the land, and wanting her children and grandchildren to have the same experiences she had when she was growing up.
She wanted to preserve something for future generations so they could go into the woods or fishing on the river (excerpt T10-2).

**Dissatisfaction with first field of study**

As a child, she wanted to be a marine biologist, but when she graduated from high school her interests changed. She started college studying art history (excerpts T10-3 and T10-4). One part of her coursework involved studio art classes which helped her realize she loved studying other people’s work and not her own, which helped her realize she was not in the right major (excerpt T10-3).

**Desire to study fish**

One morning I10 woke up and decided she wanted to study fish and wanted to be in natural resources. She began to look at universities with good fisheries programs (excerpt T10-4). Her childhood experiences in the outdoors with her family had developed a connection to nature, which resurfaced when she was in college studying a different discipline.

**Choice of institution**

I10 applied to several different universities and was accepted into just about all of them. She looked at the cost of attending universities where she would be paying out of state tuition and decided she could not afford going that far into debt. She was able to afford the in-state tuition. Initially, she had intended on staying in state only to get her general education requirements but when she found the right degree program she liked it and decided to stay (excerpt T10-5). Having a fisheries program and the cost of attendance were the two helpers that influenced I10’s choice of institution.

**Academic journey**

There were a combination of people and experiences that contributed positively to I10’s academic journey.

**Tribal education director**

As I10 prepared to enter college, her parents helped her as much as they could. Her high school guidance counselor was not helpful at all. I10 and her parents sat down and worked through the applications and tried to find scholarships. She met with her tribe’s education director when she was a senior in high school and discussed what the tribe could offer her for financial aid but that was about the extent of her help. The
director had really pushed their tribal community college, but that was not where I10 wanted to go. I10 stopped using the director as a resource after that (excerpt T10-6).

**Course catalog**

When I10 decided to switch from Art History, she looked through the course catalog to find the closest degree program to fisheries and she assumed it would be in the biology department, which ended up being a zoology program. She met with an advisor in the department and got her courses lined out for zoology. After reviewing her courses, she realized it was not aquatically-focused enough for her interests and was not what she wanted. She started going through the catalog again where she found the aquatic wildlife biology program and realized that was the program she really wanted to pursue. When I10 went back to her advisor in biology, the advisor told her she would need to go over to another department. She went to the other college and found the fisheries professor, laid her entire life out on her desk, and said, “Help me, I want to be a fish biologist” (excerpt T10-7).

**Fisheries ecologist mentor**

One summer I10 took a field ecology course at her university’s biological station to catch up on her credits from when she was in a different department. They spent a lot of time hiking and she realized she enjoyed being in the field and learning things as she was going. She loved the class and did well. The following summer the biological station advertised an internship. She worked that summer in the internship for her field ecology professor and another field camp manager. The following year I10 worked for her university doing air quality work in a chemistry lab. While in that position she attended an all scientist meeting at the biological station and saw her former field ecology professor give a presentation about work he was doing on a river that goes through her reservation. She approached him afterwards and told him she would love to be the person working with him on that river which opened the door for her graduate research with him as her advisor (excerpt T10-8).

**Traditional Ecological Knowledge in her research**

Her graduate work was focused on her tribal homelands and her advisor also pushed her to pursue traditional knowledge and incorporating traditional management and traditional uses of fisheries into her thesis (excerpts
Including TEK in her research started her on the path of learning more about her tribe and their ties to the river, fishing, and traditional methodology. It also ultimately led to her getting a job with her tribe (excerpt T10-10). Learning more about her cultural connection to fish and the history of river systems through the eyes of tribal elders was one of the most enjoyable things about her thesis (excerpt T10-11).

Participating in a summer course led to her participation in an internship, which led to her job at the university where she reconnected with a professor who became her advisor for her Master’s degree. Graduate experience was enriched by having a supportive advisor who allowed her to work on a research project on her tribal homelands, which incorporated both western science and traditional knowledge.

**Support system on campus**

I10 had a support system of non-Native and Native students and faculty who helped her throughout her graduate program. Her advisor told her to incorporate western science and traditional knowledge into her thesis and was very supportive (excerpts T10-9 and T10-12). He was a good mentor for her (excerpt T10-14). Part of her funding was through a fellowship for Native graduate students in STEM fields. Her fellow students with the same funding at her institution became part of her support system, which was important to her, because tribal students often think about things differently and have different experiences than non-tribal students do (excerpts T10-12 and T10-13). She also had a Native faculty member she would visit with and she found it helpful and eye-opening (excerpt T10-13). Most of her committee members were also mentors to her.

I10 also considered two of her colleagues in her funding cohort as mentors, because they both had children and were pursuing their graduate degrees while they had this whole other life and other responsibilities. She thought it was amazing and wanted to learn from them (excerpt T10-15). Her mentors gave her general advice about how to survive grad school and be successful. I10 was also encouraged by her mentors to be true to what she was passionate about while she was pursuing her degree even though there were some bounds that were put on her. The students in her funding cohort provided support for daily survival on how to go from being in a committee meeting when you get ripped apart to going home and having a life with your significant other to waking up at three in the morning to start writing something because you have insomnia. They were
able to talk about how to balance your school life with your home life (excerpt T10-16). I10 was fortunate to have a support system of faculty and fellow students who could support both her academic struggles and struggles to also balance her personal life.

**Philosophies of science**

There were aspects of I10’s coursework that were beneficial. She often felt like she just “got” ecology, because that is how her mind works. Her ecology courses that were outside where she could see how everything was connected with each other helped her to make sense of everything (excerpt T10-19). Through I10’s coursework, she was trained as an ecologist and biologist through a western science methodology which was good and helpful but also hard. Sometimes classes were very specific and did not represent as much of an ecological view of how things were tied together which made it difficult for her to make the connection and learn at a microcosm scale (excerpts T10-17 and T10-19). Her coursework made her more of a critical thinker and more of a logical person. Before graduate school, I10 made most of her decisions based on her emotions and things she was passionate about. She had to learn the discourse in western science is very logical and teaches people to question things and that it is okay to disagree with people as long as you have facts to back it up. I10 had to develop a thicker skin. At the same time, she saw how some people took it too far. They used being a scientist as an excuse to be outright rude and critical of others’ work to where it was no longer constructive and appeared they were cutting other people’s work down to make their own work seem better or more important (excerpt T10-18).

**Hardships**

I10 had good experiences in her field and ecology courses. She also had a good support system of faculty and colleagues. However, she also experienced some hardships related to parts of her coursework and with some faculty.

**Rigid coursework**

I10’s curriculum in her undergraduate and graduate programs were fairly rigid and did not allow her to take any courses from the Native American Studies Department (excerpt T10-22). The coursework she did take within her department did not expose her to the idea of tribal knowledge being incorporated into managing
resources in sustainable and traditional ways. She would have found those concepts interesting, it would have been good to have different perspectives on managing natural resources, and it could have been helpful to her since she was incorporating traditional knowledge into her research (excerpts T10-23 and T10-24). I10 attributed the lack of traditional knowledge, information, or perspectives in her courses to a lack of understanding of how to incorporate other perspectives. She observed people on the western science path as having to work by very strict and very specific guidelines. To go outside of those lines probably made a lot of scientists and professors uncomfortable supposes I10.

**Scales of ecology**
She observed her fellow Native graduate students thinking of things at a broader level about how things are interconnected and all the pieces fit together rather than at a very specific level (excerpt T10-24). I10 observed how being trained to view management at a very specific level results in people who become professionals who manage for one species for one issue and have a hard time stepping outside of the box because of their training (excerpt T10-25). I10’s degree program was very specific and sort of microcosm-centered, whereas the way she thought and her research project were not at that same scale (excerpts T10-24 and T10-26). This created some hardship and as she progressed with her research (T10-26). She dealt with this hardship by taking a little longer to finish up her degree while working so she could be flexible to address the concerns (excerpt T10-27).

**Lessons**
Along I10’s journey, she had personal, professional, and academic experiences that taught her lessons about her beliefs about the field of natural resource management, especially from a Native perspective, and about higher education.

**Role as a Native American in natural resources**
As a Native American in the field of natural resources, I10 holds herself to a higher standard because of the cultural and spiritual connection to the land, fish, and the water. She holds a real sense of being a steward of the land, not taking so much fish, or overharvesting plants. She works to be someone who manages the resources sustainably for future generations as well as manages the resource for the benefit of the resource
and not just her own needs (excerpt T10-28). For example, a tribally significant species has been on decline. Multiple tribes are frustrated with government agencies who manage the species focusing on researching the species rather than trying to find ways to manage the species in a way that helps the species. Also, the disconnect between the tribes’ and agencies’ objectives creates some hardships for co-managing resources (excerpt T10-29).

Navigating working for her tribe
I10 has worked for her tribe for a few years and has observed it is different than working for an agency. She learned there are more politics working for a tribe. None of her coursework had prepared her for how to navigate through those kinds of politics and she questions whether this could ever be taught in a class (excerpt T10-30). Working for her tribe has also taught her how her tribe incorporates their tribal values into their management. When their fisheries program has extra steelhead available they are given to the tribal food banks and to tribal members. They also incorporate their Native language into their natural resources programs (excerpt T10-31). Because a lot of their natural resources are also cultural resources, her program works a lot with cultural people to integrate cultural and traditional practices into their work (excerpt T10-32).

Vision
As I10 reflects on her academic and professional experiences as a Native person in the field of natural resources, she developed a vision of the ideal academic experience for other American Indians pursuing degrees in the field. She would like to see more Native faculty representing tribes from everywhere to bring in a diversity of perspectives. She also believes it would be beneficial to have professors who were not on a narrow path within academics and science, but have life experience and an understanding of coming from a tribal background and how that makes things different. I10 believes having those kinds of faculty will go a long way in how professors teach and their ability to connect with tribal students. She sees the curriculum as a split between western science and Native American studies or TEK related to sustainable management and traditional management (excerpt T10-33). She also believes it would be helpful to have a professional development class related to what it would be like to work for a state, federal, or tribal agency: the
expectations and the bounds. She also sees a value in faculty who had experience working with a tribe who could explain it is not that you work for an agency, but you serve the public or tribal membership. They could also address the importance of having good working relationships with all of the agencies and the public. Ideally, Native students would have an advisor who is Native or someone who understands the differences between the path of Native students and the path of more traditional students (excerpt T10-34).

Intermediate: Extra time to find the path: Interview 16
Interviewee 16 (I16) grew up on his reservation. Before entering college, I16 worked in a program that exposed him to environmental issues on his reservation, which was influential to his later academic pursuits. I16 selected his first institution, because that is where his friends planned to attend. He was not very engaged in his academic pursuits. Then while in college, his first son was born and he stopped out to work to support him. After working physically strenuous jobs for a few years, he knew he could not continue that line of work and re-entered college, this time at his tribal college where he earned an Associate’s degree. When he first started taking classes, he chose classes that sounded interesting. Eventually he discovered he was passionate about the field of natural resources. He had a good support system there and was able to successfully complete his Bachelor’s degree at a different university. While pursuing his Master’s degree, he met the woman who eventually became his wife. She was also pursuing her Master’s degree and was able to provide him with advice on how to navigate the system. It had taken him a while to find his path and overcome his feelings of failure from stopping out of his first institution. Once he found his path, his journey was much smoother than was his first college experience. After earning his Master’s degree, I16 became employed on his wife’s reservation in the field of natural resources.

Helpers
I16 had helpers who contributed to fostering his interest in the field of natural resources, his choice of institution, and his positive academic experiences.
Interest in the Field of Natural Resources
Through work he conducted for his tribe he learned more about his reservation’s environmental status, as well as factors with the potential to impact its quality. This experience and knowledge helped to inspire his desire to maintain a high environmental quality for future generations.

Professional experience in the field
He always felt drawn to the field of natural resources early in his life. While he was in high school, he participated in a work-learn program for two years in his tribal natural resources department on his reservation (excerpts T16-1 and T16-2). He would job shadow technicians and the program managers who studied water and air which piqued his interest in the field (excerpt T16-1). They would test the water and air quality, as well as clean up places that had a lot of garbage (excerpt T16-4). While he was working for them they were establishing water and air quality standards. He learned the tribe had made an agreement with a nearby power plant to measure the air quality to assure they were not damaging the air quality (excerpt T16-5). His work experience gave him an understanding of what the tribes faced regarding the boundaries of the reservation and the exterior. They knew there was pollution in the river and they were trying to find where it was coming from, because the water was used for cultural practices (excerpt T16-3). He had begun to be more aware of the impacts of energy development and started looking at a map of his reservation in relation to sites of energy development. There was energy development on almost every side. His tribe had to fight to keep pollution from impacting the reservation. These experiences were all significant to developing his awareness and interest in the field of natural resources and specifically the issues impacting his tribe’s natural resource management.

Desire to preserve a pristine environment for future generations
He wanted to keep the reservation clean, have a Class one air shed, good water, clean land, and wildlife for his family and for future generations (excerpt T16-6). Having an understanding about the issues regarding the boundaries of the reservation and the exterior, as well as his desire to keep the water, air, and other resources clean and accessible for future generations helped him enter the natural resources field (excerpts T16-3 and T16-6). His thoughts about future generations can be tied to cultural values of thinking, praying, and living in...
ways that will positively impact future generations even if he does not live long enough to see those impacts. Also, as will be discussed further in later sections, his desire to keep the natural elements (i.e., water and air) pristine are directly related to his knowledge of their significance to the practice of cultural ceremonies (excerpt T16-39). By protecting the quality of those resources, he would ensure the ability of tribal members to continue to practice their culture at that time and in the future.

**Choice of Institution**

When I16 first went to college, he chose his state’s land-grant university, because his friends were going there rather than because he knew it had a particular degree program he was interested in pursuing (excerpt T16-8). While there, he was working towards a degree in General Studies although he did not consistently attend class. He did not complete his degree there and moved back to his reservation. His family told him he needed to do something so he started working for the Bureau of Indian Affairs. He ended up attending two other institutions and earning multiple degrees. Affordability, location (i.e., at first close to home and then close to his son), and a strong presence of Native Americans were the helpers that aided in his choice of institutions.

**Affordability, Proximity to his son, Degree offerings**

When his son was born, I16 had stopped out of his first college to provide for him (excerpt T16-33). I16’s parents were disappointed, but they knew he needed to learn from his experiences. When he got back to his home community after leaving his first college, his parents told him he needed to do something, so he started working. Then his mother told him he could take classes for free at his tribal college, so he began taking classes while he was working to support his son (excerpts T16-8 and T16-10). Before I16 completed his Associate’s degree in General Studies with an emphasis in the Sciences at his tribal college, he started searching around to find what degree programs and universities would benefit him (excerpt T16-8). His son and his son’s mother had moved across the state. He wanted to see them and had been working small jobs, which left him barely able to give his son’s mom money (excerpt T16-10). It was important for him to be able to continue to provide and see his son (excerpts T16-8 and T16-10). This also factored into his search for his next institution.
I16 felt he had failed when he stopped out from his first college after the birth of his son (excerpt T16-33). He knew he had disappointed his parents (excerpt T16-10). That failure was a motivating factor when I16 went back to college the second time. He believed he could not drop out a second time. He had a desire to earn his degree and not fail a second time (excerpt T16-33). Once he got back into college and found the right field of study, his drive to succeed the second time around helped to motivate him.

**Location and Native American presence on campus**

After earning his Associate’s degree, I16 found an environmental studies program at a different university within his state that appeared great and visited with a few people who had attended, as well as some faculty (excerpt T16-8). The combination of having a quality program that others recommended and being closer to his son’s new residence were influential in his choice of his institution. The location of the institution was significant because of its proximity to his son, but he also felt the location of the institution was a beautiful place (i.e., aesthetically pleasing). He knew the university also had a strong Native American presence in the number of Native American students attending the institution and the visibility of programs and services for Native students. Although he knew there was a large Native American student population, he was the only Native American in his degree program, which contributed to some of his hardships while he was there (excerpt T16-9). After he had been on this campus for a while, he met the woman who eventually became his wife (excerpt T16-10). She was instrumental in him pursuing his Master’s degree. She knew the process and gave him a lot of good information. His friends, being able to take classes for free while working, wanting to be closer to his son, and his wife were the helpers which influenced his choice of institutions.

**Academic Journey**

Because his time at his first institution was so brief, he did not discuss any helpers during his attendance there. I16 had helpers at his tribal college (where he earned his Associate’s degree) and his last institution (where he earned his Bachelor’s and Master’s degrees) that contributed to his positive academic experiences. I16 did indicate that his failure to earn a degree at his first institution was a hardship, it became a helper later on for him in the form of motivating him to succeed at his subsequent institutions (excerpt T16-33). His helpers on his
academic journey included: flexibility in his course selection at his tribal college, strong support systems, graduate funding, tribal knowledge in his courses, participation in student groups, the focus of his thesis research, Native faculty and mentors, and graduating (i.e., the opportunity to succeed after stopping out).

**Flexibility in course selection**  
At I16’s tribal college he had the flexibility to take classes that interested him, which was helpful in him finding a path he liked. He took a business class and then started getting into the natural resources and environmental classes (excerpt T16-11). He discovered he really liked the latter courses, which was when he started to see natural resources as his path and find his direction.

**Support system**  
While at his tribal college, I16 had help from people there with applications for the university he intended on transferring to and for scholarships. Because he was receiving funding from them, the tribal education department advisor required him to submit his midterm and final grades, as well as having his classes set up for the next two years (excerpt T16-11). It was helpful to report to the tribal education department advisor, because it helped him keep his eye on the goal of graduating and make sure all the paperwork was completed because his funding would not be released until he had fulfilled those requirements (excerpt T16-12). I16 also had good science instructors who were available to provide help with their classes (excerpt T16-13). I16 had tribal college staff, his tribal education advisor, and tribal college faculty who were part of a strong support system for him there. Stopping out had initially been a significant blow to him, but served to motivate him to succeed as he continued his education (excerpt T16-33). Attending his tribal college with such a strong support system helped to build his confidence and prepare him to continue his education.

**Graduate funding**  
While pursuing his Bachelor’s degree, I16 was awarded a fellowship for Native American graduate students in STEM degree programs (excerpts T16-12 and T16-13). In addition to financial support, the funding helped him acquire tutors. The program also helped him connect with other Native students on his campus, which was significant to contributing to his sense of belonging and community because he was the only Native student in his degree program (excerpt T16-13).
I16 had help at his tribal college with admissions and scholarship applications, funding from his tribal education department, which helped to keep him focused, supportive instructors, his wife providing guidance, and funding specifically for Native students, which also provided other kinds of support. These helpers contributed to getting I16 onto the path of working towards his natural resource related degree program.

**Tribal knowledge in his courses**

I16 had grown up on his reservation and was active in his tribal culture. When he took courses at his tribal college, he was able to take a diverse array of courses that included tribal knowledge. One was an ethnobotany class. The instructor was a tribal member who was fluent in ceremonies, language, and was knowledgeable about plants and animals and how to use them. That course was the only course that had a tribal cultural aspect related to natural resources, but he also took some tribal language classes (excerpt T16-15). The tribal college also had professors who understood that the tribes have a lot of history they can draw from as far as science and math. Including tribal connections in the curriculum at his tribal college was beneficial because the things they were discussing were right outside the college doors and were more applicable to the tribal culture and science (excerpts T16-16 and T16-17).

In contrast, when he was at the university where he earned his Bachelor’s and Master’s degrees, there appeared to be more emphasis on science than culture (excerpt T16-16). He did not put as much effort into explaining his culture in his papers like he had done at his tribal college, because he would consider if his professors would understand it or if they would get confused (excerpts T16-16 and T16-17). At his state university, it appeared there were not opportunities to bring in that aspect of science related to tribal knowledge or TEK (excerpt T16-17). Although there was not tribal content within his courses, his classmates and at least one professor would ask him questions about being a tribal member which he appreciated (excerpt T16-23). He did not feel like he had been tokenized while pursuing his degree there. He was held to the same standards as everyone else and had to work just as hard rather than being given a break so they could retain a Native student (excerpt T16-34).
**Student groups**
I16 participated in AISES and his student council at his tribal college (excerpt T16-22). Being involved got him participating in college life rather than just going to class and going home to do homework. He interacted with other people, got to know the people, and share experiences (excerpt T16-20). They did fundraisers. They coordinated a science fair and volunteered in the community (excerpt T16-21).

When he was at his state university he was active with his graduate funding cohort, the Native American Student Association, and AISES (excerpt T16-20). His Native graduate cohort would gather once a month and they got to know what each other was studying (excerpt T16-31). There were other opportunities for engaging with other Native American students like attending sporting events together. He wished there had been more opportunities (excerpt T16-31) but it was challenging for him because he was the only tribal member in his program (excerpt T16-23). He also felt like some of the student groups at his university could have announced their meetings better and were not as organized as he would have expected (excerpt T16-32).

**Focus of his thesis research**
I16 had failed once and was determined not to fail again. He had heard horror stories of people completing their graduate coursework with good grades and then burning out when it came to the research. He really hoped that did not happen to him (excerpt T16-25). He knew it would be important for him to find a research topic that really interested him and that he could relate to rather than something abstract. His ties to his reservation and participation in his tribal culture gave him knowledge and respect for access to clean water, which led him to consider evaluating his reservation’s water.

His thesis research was conducted on his reservation’s water quality. There was not as much previous testing as he would have thought. He worked in a chemistry lab to remediate those trace metals. (excerpt T16-24). Being able to do research related to his tribe definitely impacted his completion. It was something that really drove him, was important to him, and was important to his tribe. It was important for his people that they get the information through his study. When he completed his thesis he gave a copy to his tribal government and his tribal college. If he had done a different project that was not as important to him, did not have those ties to
his tribe, and did not have the same cultural significance, he probably would not have been as driven and
suspects he would not have finished (excerpt T16-25).

Native faculty and mentors
While I16 was a student, he had a diversity of mentors and people who contributed to his support system. At
his tribal college, there were quite a few Native faculty. He also had family members who worked there. There
were people he could go talk to who he knew if he had questions about the culture or the tribes (excerpts T16-
29 and T16-34). While at his tribal college, he had one mentor who was a faculty member who was part of
getting him started in science and encouraged him to keep furthering his education (excerpt T16-27).

While I16 was at his state university, he had a Native professor associated with his graduate funding program
who was always someone he could go to and talk about life or school (excerpt T16-26). He became a great
mentor for I16. He also had other professors who served as mentors to him in various departments (excerpt
T16-27). His mentors kept encouraging him to keep going to the next levels of his education (excerpt T16-28).

Graduating
I16’s first experiences at college gave more meaning to graduating with his Master’s degree, which he
considered the best part of his academic experience. It was one of his greatest days. He had done a lot of hard
work to earn his degree and accomplish his goal (excerpt T16-30). He met people while going to school. He
graduated. Then he was able to move onto a job that was in his academic field. Those are experiences not a lot
of people get and he sees himself as pretty fortunate (excerpt T16-38). After graduating and beginning his
career, his hard work in college is paying off (excerpt T16-34).

Hardships
I16 experienced some hardships along his journey.

Lack of focus and maturity
When he first entered college out of high school, he did not have a clear sense of direction and did not attend
class very often. Then he got his friend pregnant and their son was born about halfway through his second
year. He stopped out and started working. His son’s mother went to school while he worked (excerpt T16-33).
Stopping out
Dropping out was I16’s biggest hardship. In the back of his mind, he could hear the negative stereotypes of Native Americans who go to college and then fail. He felt like his first experience at college when he ended up stopping out fulfilled those stereotypes (excerpts T16-41 and T16-42). He had a feeling of defeat like he was one of those stereotypical Native Americans who go off to college and end up not doing anything, not completing anything (excerpts T16-34 and T16-35). In reflection, I16 was glad he failed, because it gave him the drive the second time he entered college. He could not fail a second time. He needed to get his degree (excerpt T16-33). Working hard labor those six to seven years before going back to college gave him the drive that he could not do that the rest of his life (excerpt T16-34).

Lessons
I16’s personal, academic, and professional experiences taught him lessons about his role as a Native person in the field of natural resources and about higher education.

Natives in natural resources
He had failed at his first attempt at college and took a few years off. He believes Native Americans and natural resources belong together. As a Native person, I16 feels at home when he works with the land, the water, and the air. He felt drawn to natural resources because he was Native American and felt not just attached but like he belonged to the land (excerpt T16-35).

Opportunity to succeed
He was excited to have the opportunity to participate in college and be successful. He was able to persevere through some hardships, get into a program and discipline he really liked that got back to the land, and that was all very important to him. His successes were shared through the Tribal College Journal (excerpt T16-35).

Tribal natural and cultural resources
I16 has worked for his own tribe and another tribe in the field of natural resources. Both tribes recognized cultural preservation’s link to natural resources in their management practices and policies. When he was working for the Bureau of Indian Affairs on his reservation prior to earning his Bachelor’s degree, his colleagues were mostly other tribal members. He observed that they all knew the area, because it was their
homeland. When they would partner with people from other places, they did not know the land the same way or his tribe’s culture. The tribal members would advocate for avoiding development in specific areas because of cultural significance of that place that the other people did not know about (excerpt T16-40).

In his current position, when he is out in the field doing restoration and reclamation he is keenly aware of cultural resources. When they come upon something like a tipi ring or some rocks that represent something they stop their work and get someone out there to evaluate it (excerpt T16-36).

When tribal members are trained in the field of natural resources, they are often better able to identify areas on their own lands or features on other tribal lands that are culturally significant and should be treated appropriately whether it is during development or restoration work than non-natives or people who are less knowledgeable of the land and culture. Being able to manage tribal natural resources while also being able to preserve tribal history and culture are important skills for Native people pursuing degrees and working in that field.

After his personal and academic experiences, I16 believed it would be beneficial for western universities to teach science with a localized focus that brings in multiple perspectives like tribal perspectives if it was taught with considerations to who had traditional uses of the land versus how people use it now. Furthermore, he suggested reclamation or remediation discussions need to consider if the desired state is like one hundred years ago or before western influences back to tribal members. This could be done by attaining access to resources like interviews of tribal members about how they used to use the land. There would also be a need to know what tribes were in the area before (excerpts T16-17 and T16-18). When I16 considered western and tribal knowledge there were some similarities like both wanting clean air and water. There is a difference between the reasons behind those goals. Tribal cultures want to be able to enjoy the resources for ceremonies like they have done for hundreds of thousands of years. Western science desires to get things back to before Western man as quick as possible and then move on (excerpt T16-19).
Vision
I16 came up with a vision of the ideal academic experience for American Indians pursuing degrees in the field of natural resources. When he first thought about college, he just wanted to get away from his reservation with his friends, but as he got older he saw the benefit of having a tribal college close to where he lived. He was able to take classes that incorporated tribal knowledge. At his first institution he was by himself and expected to learn and get done or he would get kicked out. He felt like that cultural slam stunned him. Then he was able to go to his tribal college and get into the whole school mode, because he had a good support system. At his state university he also had a good support system which helped him to succeed (excerpt T16-37).

Intermediate: Indian Identity: Interview 18
Interviewee 18 (I18) spent most of her childhood in the Pacific Northwest and not on her reservation. Some of her experiences there with marine animals inspired her initial interest in the field of wildlife. In high school, her family moved to her home reservation. At the suggestion of her mother, she attended her tribal college and a non-tribal institution in her state. Her tribal college experience was positive. She felt a sense of belonging because the other students had similar cultural identities. She also had supportive mentors there. Her experience at the institution where she earned her Bachelor’s degree was a mixture of positive and negative. There was a large population of Native students, which contributed to her sense of community. She attended at a time when the institution was in the process of changing their Native American logo, which caused a lot of tension on the campus and negatively impacted her academic experiences. After earning her Bachelor’s degree, she moved back to her childhood state and earned her Master’s degree. The coursework at her non-tribal institutions rarely included diverse perspectives. Being active in Native American student groups was influential for I18 as she progressed through her various degrees. When she became a mother, her child was an important influence on her career choices.

Helpers
I18 had helpers that contributed to fostering her interest in the field of natural resources, her choice of institution, and her positive academic experiences.
Interest in the field of natural resources
I18 was passionate about working with wildlife. As she got older, her family and eventually fellow Native students helped to influence her academic path. Yearly field trips to a wildlife center, supportive science faculty at her tribal college, Native children (especially her daughter), participation in student groups, and finding a natural fit were the helpers that fostered I18’s interest in the field of natural resources.

Field trips to a marine wildlife center
I18 grew up in the Pacific Northwest and went through almost all her primary education in the public schools there (excerpt T18-1). At least once a year they would go visit a local amusement park that focused on marine wildlife which may have had an early influence on I18’s desire to work with wildlife and animals which turned into an interest in becoming a veterinarian (excerpts T18-1 and T18-2). When she was in junior high she went on some college campus visits fairly close to her home community. She intended on going to one of those colleges because part of their tour had taken her through their veterinary school (excerpt T18-1). Those field trips were some of the initial helpers that sparked I18’s interest in natural resources.

Tribal college science faculty
I18’s family moved back to the northern plains when she was a junior in high school. Her mother began taking classes at her local tribal college when I18 was a senior in high school and suggested I18 think about taking classes there also. I18 went and visited with one of the science faculty members and shared her interest in veterinary medicine, and then he explained the process to her. She ended up attending her local tribal college and ended up becoming interested in environmental science and ecology (excerpt T18-2). The supportive science faculty of her tribal college helped to shape her academic plans to meet her professional goals.

Her daughter and other Native children
She had just had her daughter and began to think about how intensive a veterinary science degree was going to be. She excelled in science and decided to finish her degree at her state’s university in fisheries and wildlife biology. The work she started to do through some of her student groups in this direction also allowed her to see her daughter enjoying those activities and they also bonded during those activities. As she progressed through her academic program she began to feel pulled away from being a scientist and towards getting other
I18 felt she had to choose between having a successful career or being a successful parent, which she believed she could not be both as a single parent, but then she found that working with Native youth in the sciences was an avenue that allowed her to still be connected with science in a way that was not time-consuming and did not require her to be away from her daughter.

**Student groups**
Her involvement with two student groups in particular were significant in helping I18 find her specific career path: the American Indian Science and Engineering Society (AISES) and the Ecological Society of America’s Strategies for Ecology Education, Diversity and Sustainability (SEEDS) chapters (excerpt T18-4). I18’s interest in the field of natural resources was also influenced by her location and where she grew up. While she was working on her Bachelor’s degree, her tribal culture also influenced her interest in the field as she was learning about her tribe’s traditional ways, their worldview, and breaking away from the western science perspective. Her involvement in AISES and SEEDS influenced the direction she really wanted to go and what she would do for her Master’s program (excerpt T18-5). Participating in Native and diverse student groups exposed her to how other students were incorporating their culture into their coursework, research, and professions, which were similar to her interests and intentions.

**Natural fit**
I18 believed as a Native person, she already was connected with the outdoors and had the mentality of getting her hands dirty, which was a perfect fit because it came natural to want to care about the environment and to want to do something to make a difference (excerpt T18-6). Her childhood experiences around marine wildlife instilling an interest in working with animals in some capacity like veterinary medicine, being a single parent and knowing the demands of veterinary science, discovering a good fit for her interests in science and desire to be a successful parent through participating in student groups and learning more about her tribal culture were helpers that led I18 to choose to pursue a degree in the field of natural resources.
Choice of institutions
Her mother, location, professors at her tribal college, having a degree program that interested her, having an AISS office with a homey and welcoming environment, and being able to reconnect with family were the helpers that guided I18’s choice of institutions.

Her mother
I18’s mother was a significant helper for her choice of where she began her journey in higher education. Her mother did not want her to sit around home and not do anything so she suggested she start out by taking some classes at her local tribal college and then she could transfer somewhere else if she desired. After visiting with the science professor at the tribal college to sort out her career interests, she made the decision to go there (excerpt T18-7).

Location and suggestion of others
She chose her next institution because of its location and suggestions by a couple of her tribal college faculty who suggested it had a great support system. They mentioned the wildlife biology program and the American Indian Student Services (AISS). I18 visited the campus and liked the homey, welcoming environment (excerpt T18-8).

Location
When I18 decided to pursue a Master’s degree, she chose to go back to the Pacific Northwest somewhere close to where she had grown up (excerpt T18-9).

Academic Journey
I18 attended three different institutions. The first institution she attended was a tribal college. The other two universities were non-tribal institutions. At each institution, she had people who contributed to her positive academic experiences. Exposure to Native science and being able to have research with connections to her tribal culture were also helpers on her academic journey.

Student body composition
I18’s first experience in higher education was at her tribal college. She liked that she got to be around people who were like her. Most of the other people came from the same reservation as her. They all knew the tribal
background and understood what everybody struggled with because they were the same. She felt comfortable because it was just like being at home (excerpt T18-10). She felt a sense of community and belonging at her tribal college.

**Student groups**
I18’s journey through higher education was facilitated by making a connection with Native student groups who then provided support across changes in institutions. Her tribal college was the first place she became involved with AISES. She remained involved with AISES at all the institutions she attended and was also involved with other student groups like her university’s Indian Association and SEEDS (excerpts T18-4, T18-5, T18-11 and T18-12). People within those student groups became some of her biggest supporters and advocates. Through the student groups she also became connected with people who served as mentors for her (excerpt T18-12). Making those connections and building that network through her academics and participation in student organizations was the best part of I18’s academic experience that she continued to maintain after earning her degrees. Those relationships were fostered by having the shared experience, knowing what the struggles were, and keeping each other motivated and lifted up even when they felt like quitting (excerpt T18-13). I18 attributes her success all the way through college to her involvement in student groups (T18-11). Student groups supported her, contributed to shaping her academic path, and helped create a professional network she maintained after graduating.

**Mentors**
I18 had some mentors who were so significant to her completing her degrees she believes she would not have finished if she did not have them as mentors. One of her first academic mentors was the science professor at her tribal college (excerpt T18-14). He was always pushing students to keep going and to think about advanced degrees. Her math professor at her tribal college was another mentor who was supportive of her as a student and helped to push her towards her next institution for her Bachelor’s degree. She also nominated I18 for a significant scholarship, which she was awarded (excerpt T18-14). I18 believes she would not have enjoyed math as much as she did and probably would have failed her math classes at her next institution if she did not
have that strong base from her tribal college math professor. There was also a tribal member staff person in her tribal college’s technology department who first got I18 involved with AISES. She believes she probably would not have taken college as seriously if she had not run into those people.

At her next institution, she met a woman in AISS who monitored I18’s progress and class attendance. For example, if she knew I18 was in the lounge when she was supposed to be in class she would tell her to go to class. I18 worked as a work study student in that office and a lot of the staff members were supportive of her and kept her motivated. I18’s academic advisor was another significant mentor. He was supportive and would suggest she get involved in different activities and organizations across campus, especially if she was going to consider graduate school (excerpt T18-14). This professor’s wife was also a professor on campus and was someone I18 ended up working on different projects with (excerpt T18-15).

I18 had a diversity of people who were helpers along her academic journey. Some were family, community members, or members from her tribe who contributed to her sense of belonging and reinforced her Native identity. Some were Native students, faculty members, or staff members who also supported and encouraged her. She also had non-tribal people who were mentors and advocates for her. She had a strong support system of people who helped her through her academic journey.

**Awareness of Native science**

One helper was I18’s ability to integrate western science into her overall understanding rather than see it as a challenge or contradiction to her culture. In fact, the worldview stemming from the foundation provided by her traditional knowledge played a key role in helping her in this regard. While I18 was a student and began to learn more about her culture and language, she began to become more aware that there were alternate viewpoints and knowledge sources than just western science. This new awareness changed how she saw science, in particular Native science as more holistic versus western science as more separate and compartmentalized (excerpt T18-27). She learned how to appreciate Native science and ecological knowledge, as well as see where they met western science. She could see how a lot of things were the same but were
explained in different ways (excerpt T18-16). These changes in her perspectives as a Native person pursuing a degree in the sciences was influential in her subsequent research and professional trajectory.

**Thesis research topic**
As I18 moved forward through higher education, she chose to focus her Master’s research on evaluating how to better incorporate Native beliefs into environmental management plans and was supported by advisors in doing so (excerpts T18-17 and T18-18). She believes if her thesis research had not been something related to her and connected to tribal knowledge, she probably would not have completed it, because she was no longer in her home community and no longer had those formal and social support systems, which was important because her institution where she was pursuing her Master’s degree was several states away from her reservation (excerpt T18-19). I18 had worked on one other research project that was related to Native people on her reservation but it was not until her thesis research that I18 was able to incorporate anything from her own culture into research (excerpts T18-18 and T18-19). Prior to that experience, she had felt confined the western science model. Her research focus was inspired by meeting other Native people through AISES who were doing research the way they wanted, with the intention of positively impacting their tribes, and were breaking down barriers within scientific research. She had an aversion of research because of the perceived expectation that people have to dissociate their culture from their research, which she believes was a result of the system being intended to make white people successful leaving no room to incorporate Native knowledge or minority perspectives (excerpt T18-20). Becoming aware of other kinds of scientific knowledge and seeing how other Native people were conducting research were two helpers that inspired I18 to conduct her thesis research with a cultural focus. Those helpers helped her overcome feelings of confinement by how she perceived science and research. Having a cultural focus on her research was a significant helper for I18 to complete her Master’s degree.

**Hardships**
I18 experienced some hardships along the way. Most of the hardships she experienced were at her state university where she earned her Bachelor’s degree and were directly related to her Indian identity. However,
one part of her upbringing became a hardship later in life. Her mother had attended boarding school, and like many other Native children, she learned it was harder to have a strong Indian identity and be successful in school. As a result, 118’s mother chose not to teach her children their Native language with the hopes that they would have an easier time in school if they were assimilated (excerpt T18-25).

**Culture shock**
When I18 first transferred from her tribal college to the university, she experienced some culture shock, because she was not able to be around her family and she had many non-tribal classmates. She experienced feelings of loneliness, isolation, and lacking a sense of belonging. Further contributing to those feelings was that the other students in her program of study were mostly white and male. In the classroom, the science curriculum was not always compatible with her belief system. For example, her anatomy and physiology class’s lab included experiments on animals, which from her cultural perspectives she did not feel was respectful. About that time, her institution was under scrutiny for their Native American logo and her participation was excused because she felt the professor did not want to challenge her. I18 could feel the tension or questions her fellow students harbored regarding her lack of participation, if others’ fear of confrontation during a contentious time had not stopped them from voicing their concerns I18 had a certainty and strength of identity that would have seen her through those times. These hardships were examples of struggles Native students experience that most non-Native students do not usually encounter. Native students were expected to compromise their culture to meet the expectations of their courses and degree programs (excerpt T18-21).

**Native faculty member**
I18 also experienced some hardships at her state university related to Native faculty and programs. There was one particular faculty member who was like a trickster in that he was involved in all the Indian-related programs and tried so hard to fit in, but he would often do or say things that upset Native students. For example, he acted non-Native the majority of the time and ended up being the token Indian when he was around non-natives (excerpt T18-22). She did not believe he had an authentic Indian identity and inappropriately used his Indian identity to benefit himself. Her experiences with this faculty member added to
the tension Native students were feeling on her campus, which was unfortunate because as a Native professor, he had the potential to advocate and inspire them.

There had been another Native faculty member at her institution whom she held in high esteem. She applied for a position as an associate professor and had better credentials than the non-Native candidate. About that time, the Native faculty member had been publicly vocal on the institution’s Indian-themed logo. After the non-Native candidate was selected over her, people speculated it was due to her public stance on the institution’s logo. I18 felt this was a loss for Native students, because this faculty member had a deeper connection to tribal culture than the other Native faculty or the non-Native professor who was hired instead of her (excerpt T18-22).

Native serving programs
I18 also felt frustration with some of the programs that were intended to serve Native students but appeared not well thought-out. The institution had many Indian-related programs that drew in many Native students and some were really good programs but others fell short and did not have as many successful graduates. She related that to the cultural disconnect Native students experienced (excerpt T18-22). Some of the institutional structures like certain Native faculty and programs were hardships I18 observed but chose to avoid.

Native logo and racism
The biggest hardship I18 encountered was at the university where she earned her Bachelor’s degree. The Native American logo issue’s hayday was a brutal time to be a Native student there for her. She voiced her opinion and was very vocal about being against the logo, which made her a target. Even after graduating and having the logo issue resolved she feels terrible for the students there who have to deal with the ignorance and racism. She learned a lot from the logo issue and saw a lot of hurt. She saw her friends hurt and was not able to do anything about it or find any justice for them. She saw friends walk away and never come back because they did not want to deal with it anymore (excerpt T18-23). The people she chose to surround herself with made the difference of whether she stayed or not. Knowing they were going to be there the next year made her want to be there right beside them and still go to class and finish her degree even though she knew
there were going to be ugly things that came up during the year (excerpt T18-24). The hardship of racism and ignorance associated with her university’s logo was not something she overcame, but she made it through and graduated.

**Tokenism**
Attending non-tribal institutions the majority of her academic journey presented two hardships she had not experienced at her tribal college. The first hardship was when people learned she was Native American she was expected to be the representative for all Native Americans (excerpt T18-25).

**Tribal knowledge in her courses**
Then, the courses she had taken at her tribal college were effective at incorporating tribal knowledge, because they had people qualified by life experiences and academia to teach the classes in ways that connected Native students with their own tribal cultures, which was not the case at her non-tribal institutions where professors took an anthropological approach to Native Americans. The history and culture that was being taught about Native Americans was what was written about them in books authored by white people, according to her. The professors teaching those courses also tried to justify why natives should be more forgiving of white people, because their intentions were so good (excerpts T18-25 and T18-26). She also felt frustrated by the expectation on Native students by faculty to point out where opportunities existed to incorporate diverse perspectives or tribal knowledge (excerpt T18-20). Deficiencies in Native faculty, poor incorporation of cultural knowledge in the curriculum, and unappealing Native American studies courses were hardships I18 experienced at her major universities. I18 suggested one way there will be some changes in the current system is when more people of color get advanced degrees and enter academia as professors (excerpt T18-20).

**Lessons**
After earning her degrees and working with school age Native children to promote science, I18 learned a lesson about the current pathways into higher education for Native people. She has observed how poorly Native students, especially from reservations, are prepared to go to college. She believes Native youth as early as freshmen need someone to talk to them early to help them see the big picture of higher education. They should have someone telling them how to behave through high school to make sure they will not have a tough
time getting into college, and they will not be wasting money on remedial classes to catch up to everyone else. There need to be people reminding them of deadlines and available to help guide them through the admissions and financial aid applications processes (excerpt T18-26).

**Vision**

I18 did not answer a specific question about her vision for an ideal natural resource degree program, however several of her comments do address what she believes would be beneficial. After observing the lack of preparation Native students attending school on reservations receive, she believes preparing them for college should begin early (excerpt T18-26). She believes it is important for Native students to be able to identify with the discipline (excerpt T18-20). She also believes faculty members should be true to their identities and only teach what they know firsthand (excerpt T18-22). Lastly, from her experiences at a tribal college and two different non-tribal institutions, tribal colleges are better at teaching traditional knowledge because they are connected to tribal communities (excerpt T18-25).

**Smooth: Strong Support Systems: Interview 17**

Interviewee 17 (I17) grew up on his home reservation in a ranching environment. He knew he wanted to work outdoors and was drawn to the field of wildlife biology. His parents strongly encouraged him to pursue higher education. He attended a nearby community college before transferring to a non-tribal institution in his state for his Bachelor’s and Master’s degrees. He gained confidence at his first institution, because it was smaller and closer to his home community. At the institution where he earned his Bachelor’s and Master’s degrees there were more students and it was faster paced, but he had a good academic support system comprised of multiple mentors and student groups who positively contributed to his academic success. At the time of the interview, he was pursuing his Ph.D at a non-tribal institution in another state. He had strong support systems including family, mentors, fellow students, resources (i.e., funding), and opportunities (i.e., research experiences) at each of the institutions and experienced very few hardships or challenges.
Helpers
I7 had a number of helpers that contributed to his interest in the field of natural resources, his choice of institutions, and his academic journey.

Interest in the field of natural resources
Growing up on his family’s ranch, I7 was exposed to the outdoors and natural resources on a daily basis. When he wanted to play, he would just go play outside. He also grew up with a strong interest in understanding the environment (excerpt T17-1).

I17’s parents also strongly encouraged him to pursue advanced education in any field that interested him (excerpt T17-1). By the time he was in high school he knew he wanted to work outside rather than being stuck in an office. As he considered career fields, wildlife biology was something that piqued his interest (excerpt T17-2). Growing up exposed to natural resources on a daily basis, being encouraged by his parents to get a college degree, and knowing he wanted to work outside were the helpers that guided his interest in the field of natural resources as a career.

Choice of institutions
When it came time for I17 to choose his first institution, he considered some of his interests and the aspects of the institution that might be supportive to his experience. I17 left high school knowing he wanted to do something outdoors with the sciences and he wanted to play basketball. When he thought about where he would go to college he also considered being close to home, because he did not feel comfortable in a larger school or being further from home, which narrowed his pool of possibilities (excerpts T17-3, T17-4, and T17-21). He was offered an academic scholarship at a community college in the area, which made it more feasible for him. It was the right location with financial support (excerpt T17-3).

After earning his Associate’s degree, I17 chose his next institution to attend for his Bachelor’s degree based on the distance from his home and his interest in wildlife (excerpts T17-3 and T17-4). When he decided to pursue his Master’s degree the thesis project and financial support were the helpers that influenced his choice to remain at that university. After earning his Master’s degree, I17 felt more comfortable on his own and knew
the career track he wanted to pursue. He did not have to consider the same earlier limitations when he was choosing the institution to pursue his Ph.D. He had financial support which allowed him to choose an institution in a different state (excerpt T17-4).

**Academic Journey**

**Cultural connections in his research**

Being a Native person earning his degrees in the field of natural resources afforded I17 different perspectives in his research and how he engaged with other Native students (i.e., sense of community and reciprocity). I17’s tribe was located in a region where bison were an important part of their survival. Because his cultural heritage was linked to bison conservation and culture, he was able to conduct his thesis research on bison and ask questions that related the research to Native American issues (excerpts T17-5, T17-7, and T17-23). His current Ph.D research is part of the re-introduction of wolves as part of a tribal project (excerpt T17-23).

**Mentors**

I17 was fortunate to have several good mentors, some of whom were fellow students and some faculty advisors. Most of the first mentorship was through undergraduate research opportunities that helped him to develop basic skills, which allowed him to pursue his graduate degrees (excerpt T17-11). One mentor was a Native staff member in the Native American office of his university. His mentors were influential in providing most of the initial opportunities to help get his foot in the door (excerpt T17-10). They provided him opportunities to gain experience and skills. His mentors were giving and talented mentors who provided significant amounts of their time and shared their insights freely (excerpt T17-12). The mentorship I17 received was a helper that provided him opportunities to gain experience and develop skills.

**Engagement with other Native American students**

I17 engaged with other Native American students in a variety of ways. His participation in student groups contributed to a sense of community and belonging. Because of all the opportunities and examples from his mentors, I17 had along his academic journey, he practiced the tribal cultural value of reciprocity by making every effort to open doors for other Native American students in the natural resources to become more involved and more successful (excerpt T17-6). He had been involved with various student groups, but one in
particular was focused on facilitating Native American student opportunities and networking (excerpt T17-8). By participating in student groups, he was able to have a camaraderie with students from different disciplines he might not have met through his coursework. The students from the Native American student groups come from similar backgrounds and face similar challenges to I17, so it is easier to have conversations about difficulties in transitions than with somebody who has no understanding about what it is like growing up on a reservation (excerpt T17-9).

**Funding**

I17 received funding for Native Americans, as well as university resources that were helpful for him in his academic journey (excerpt T17-4 and T17-3). However, he was not sure if he felt that having access to financial support, because of being Native American, was fair across all students since there is a smaller Native American student body, which decreased competition (excerpt T17-15). Financial resources had been a significant helper for I17’s choices of institutions and helped him have the ability to pursue all his degrees.

**Family**

I17’s family were also incredibly supportive as he made his journey through higher education. I17’s family and especially his parents had been supportive and encouraging of his academic pursuits (excerpt T17-1 and T17-13). I17’s family structure changed as he pursued his degrees, he got married and they had a son. Those changes in his family also changed his perceptions of reality and priorities. He felt being a parent while pursuing his Ph.D has been more of a tugging war than he initially expected. Reaching his end goal was no longer just something he wanted for himself but something he wanted for his family and children. Especially in the field of natural resources, when he reaches his goals there will be long lasting impacts to the environment for his children and grandchildren to enjoy (excerpt T17-14). His family (i.e., parents, extended family, spouse, and child) were significant helpers who provided him support and motivation throughout his academic journey.

**Hardships**

I17 experienced two significant hardships during his academic journey: transitioning to a larger institution and having a rigid degree program, which made it difficult for him to take courses with a cultural emphasis.
Transitioning from a small institution to a larger one
The biggest hardship I17 encountered was the transition from his community college to his first university. The first year and a half was challenging academically, because the expectations were much different and the speed was much faster in the classroom. He struggled to catch up because there were so many students who faculty could not provide the same one-on-one as he had gotten at his community college (excerpt T17-16).

Rigid degree program
I17 had few opportunities to take electives that might include tribal knowledge because of how rigid his degree program was. There was little flexibility within courses and no directive for faculty to want to incorporate tribal knowledge within their classes (excerpts T17-17 and T17-18). The rigid degree program was a hardship that prohibited I17 from being able to take courses with tribal emphasis, which could have helped to prepare him to work in the field of tribal natural resources. He was able to gain some knowledge and skills for working with tribes through his research. Having this kind of knowledge and experience was important for I17 to fulfill his goal of working with tribes.

Lessons
From I17’s academic and professional experiences, he learned a few lessons about higher education and the field of natural resources. He saw the importance of family support for Native students, the value of teaching about diverse management paradigms, the value of understanding cultural significance in resource management, and a need for cultural cohesiveness on campus.

Importance of family support
I17 considers family support and encouragement a huge part of providing stability for students. He sees most Native American students’ biggest challenge is their discomfort with leaving their reservation and their families to go to school by themselves. Having continual support from family, even if it is over the phone, is a crucial component in maintaining success in academics in I17’s view. He believes support can also be provided through having a surrogate family like through Native American student groups (excerpt T17-13).
Value of teaching about diverse management paradigms
Especially within the field of natural resources, I17 believes it can be valuable for wildlife and natural resources programs to include preparing their students with the understanding of the differences of tribal management paradigms. Often times the students in those programs are from urban areas and have never visited or know little about reservations. As those students proceed into the field as professionals they will have never been given the opportunity to understand those management structures and the variation of them. For example, in the United States, tribal lands occupy millions of acres. To not provide some basic understanding of those differences is what I17 views as a real weakness, because students are so driven to meet objectives, get classes done, and get onto the next class (excerpts T17-18 and T17-19).

Cultural significance in management
Being a Native American in the field of natural resources had provided him a unique opportunity and understanding of what it means to manage tribal natural resources. He has a cultural understanding of tribal historical perspectives on natural resource management, which has allowed him to have a wider lens and an ability to think outside the traditional western science views to put forward ideas that are acceptable socially and culturally from a number of different angles. He is able to bridge social and cultural communities that otherwise have a difficult time interacting and compromising on certain issues. He sees being taught western science without the ability to understand cultural significance of management decisions as a critical missing link (excerpt T17-22).

Need for cultural cohesiveness on campus
He did see opportunities for cultural collectiveness at the university in his state, because there was a strong Native American student body, however there was still that disconnect with the curriculum. In his view, the administration was only interested in being able to report the percent of Native American students and the university’s recruitment rate on them, which he viewed as a failure at that level (excerpt T17-20). The university in his home state was well-positioned to become an institution in the forefront of having strong natural resources degree programs for Native American students because of their proximity to different
reservations. Some institutions are unaware of what the next steps are or are unwilling to take the next steps to move in that direction. I17 believes public outreach is the next step in the process (excerpt T17-24).

**Vision**

Based on his academic and professional experiences and lessons, I17 derived a vision of an ideal academic experience for Native American students pursuing degrees in the field of natural resources. I17 believes there are components of his experience at his home state’s university that could be built upon to make it an ideal program for Native American students. The university has many extracurricular opportunities and meet-and-greet opportunities, which is an opportunity to build community. The curriculum as a freshman course about the careers in natural resources, which could spend a week or two discussing if those careers are available on both tribal, and non-tribal lands, as well as what are the differences. The goal would be to make students aware early on in those careers that there are many differences in how these places are managed based on whether or not they are tribal lands and why they are different. There should also be some discussion of tribal history related to tribal management. Students should understand why resource managers care about the massive amounts of land with large parts that remain untouched and are in a more natural state. Native American ecological understanding has values in its longevity. There should be linkages between the research about TEK and western science, as well as how they converge to give you the same answer. Later in the program, there should be an elective course about TEK in western science to allow students with that interest to have the opportunity to gain more knowledge within their discipline (excerpt I17-25).

**Smooth: Employment by their tribes as students: Interview 25**

Interviewee 25 (I25) was born and raised on his home reservation with his family engaged in their traditional culture and practices. His outdoor experiences contributed to his love and curiosity about the natural systems he was experiencing. After graduating high school, he moved and began working construction. A phone call from his tribe brought him back home to work in his Forestry Department. Eventually he was offered an educational agreement through his tribe’s Forestry Department that allowed him to earn his college degree while working. He attended his home tribal college and had positive experiences. It was beneficial for him to
learn skills and theories in class and then put those skills into practice at work for his tribe. He was also able to learn about his field of study through a cultural lens specific to his tribe because of attending his tribe’s tribal college, his knowledgeable faculty, and engaged mentors. He was also able to incorporate some of his professional work into his research for his degree requirements. At the time of the interview, he was still employed by his tribe and had advanced several levels within his department. Through his professional experience, he was able to see the value of attending a tribal college that provided him a cultural foundation because their department worked hard to include those beliefs in their management plans.

Helpers
I25 had helpers that positively contributed to his interest in natural resources, his choice of institution, and his academic experiences.

Interest in the field of natural resources
Early in I25’s life, he had experiences which were influential to his future path into the field of natural resources. I25’s upbringing with his tribal culture and outdoor activities developed his respect of, connection to, and curiosity about the natural world (excerpt T25-2). I25’s early helpers fostering his interest about natural resources were his experiences in the woods, his tribal culture, and his curiosity, which instilled his desire to care for natural resources.

Tribal culture
I25 grew up on his home reservation actively participating in his tribal culture and ceremonies with an understanding of their beliefs and ways, which instilled a respect and connection to their land because of what it provides for them and a desire to take care of it (excerpt T25-2).

Time outdoors
I25 grew up spending a lot of time outdoors and in the woods and did not always understand how the ecosystem worked in the wilderness. That lack of understanding sparked a curiosity to understand the functioning of the system out there and how to take care of it. He also had a curiosity about the natural resources they harvested from the woods for personal and cultural purposes (excerpt T25-1).
Choice in high school courses
When I25 was in high school he still had that connection and curiosity which was illustrated by his choice of classes like Advanced Biology and wildlife classes (excerpt T25-3a).

Working for his tribe in natural resources
As a young adult there was a significant opportunity that was a helper securing his path in natural resources. Although I25 felt connection to the land and curiosity about the natural world and had taken some courses related to his interests, he did not go to college right out of high school. Instead, he moved away to work in the Pacific Northwest. He had been working hard labor in building construction for a year when he received a phone call that his tribe had an opening in the Forestry Department. That information was just the incentive he needed to get him back on his path toward the field of natural resources. He returned home and started working for his tribe’s Forestry Department at the lowest position, a forestry aide. After he worked for them for two years he was offered an educational agreement with his work, which allowed him to pursue his degree in Forestry while he was working for them (excerpt T25-3b). Being offered a job by his tribal Forestry program was the last helper that pushed him in the direction of seeking his degree in the field of natural resources.

Choice of Institution
There were two helpers that contributed to I25’s choice of institution when he entered college: the location and the connection to his tribe.

Location
The location of his tribal college made the most sense for I25’s choice of institution, because it allowed him to work and go to school at the same time. Attending another nearby institution would have required more drive time (excerpt T25-4). The other helper guiding I25’s selection of institution was his tribal college was part of his tribe (excerpt T25-4). The location close to his home and work, as well as being part of his tribe were the helpers, which guided I25’s choice to attend his tribal college.

Academic Journey
I25 enjoyed his experience at his tribal college (excerpt T25-5). Some of the I25’s helpers came in the form of attributes of his institution, some were related to the focus and way his courses were taught, some were
people, and some were related to his employment. His helpers were in the following categories: aspects of the institution he attended, cultural opportunities on his campus and within his classes, outdoor course experiences, interactions with Native faculty, mentorship, family, employment in his field while being a student, and opportunities for professional advancement that helped him to have a positive journey.

Aspects of TCU that helped his experience
Being a tribal college, it was a smaller institution, which meant the smaller class sizes fostered a connection with the instructors (excerpts T25-5, T25-6, and T25-15). It was easier for I25 to ask questions and learn (excerpt T25-5). The size of his institution, connection with instructors, and the ability to ask questions were helpers that contributed to his learning.

Cultural opportunities and content in the coursework
There were also many opportunities to participate in tribal activities on I25’s campus and his tribe’s knowledge and perspectives were integrated within his core coursework through the inclusion of his tribe’s language, tribal history, and the use of tribal case studies (excerpts T25-5, T25-6, T25-7, and T25-9). He viewed those learning opportunities at his tribal college as different from that at other universities, which rarely incorporated tribal culture in their coursework, especially in the forestry field. The inclusion of his tribal culture on his campus and within his classes was a helper that contributed to I25 enjoying his academic journey and becoming more engaged in his culture again after he had been out of the community after graduating high school.

Field experiences in the classes
One aspect of I25’s courses he learned well from was the experiences outdoors that allowed him to be involved with what he was learning in a way that was different than just looking at pictures on a projector screen. Attending a smaller college with smaller class sizes enabled them to be in the field more than larger institutions (excerpt T25-16). These outdoor experiences gave him hands-on experience with treatment and practices, which helped them soak in better than just reading about them (excerpt T25-17).
Native faculty
The presence of Native faculty on his campus was a helper that helped I25 to feel comfortable rather than like he was being scrutinized. I25 was able to interact frequently with Native faculty, which contributed to him feeling like his tribal college was a comfortable place to learn as soon as he got there. He had Native faculty he could talk to and be relaxed and enjoy his tribal college as a place to learn and not a place to be scrutinized (excerpt T25-10).

Mentors
In addition to Native faculty, I25 also had specific mentors who were helpers who encouraged him on his academic journey. He worked closely with two faculty members at his tribal college. Even though his advisor was non-native, he was very knowledgeable and engaged in cultural aspects of forestry and tribal organizations on a national level. His other professor was a tribal member of his tribe and taught him a lot about wildlife, botany, and natural resource management (excerpt T25-19). They served as mentors to him who helped him through the process of his senior thesis and always pushed him to be more than what he expected himself to be (excerpt T25-13). His mentors were helpers who pushed and encouraged I25 all along his academic journey.

Family
I25’s family were also strong supporters of his education. They were there to encourage him and sometimes help out financially. His family played a big role in his education (excerpt T25-14). His family was a significant helper who supported and encouraged I25 throughout his educational journey.

Employment in the field while doing his coursework
Being employed by his tribe in the field he was studying created opportunities for other helpers that contributed to I25’s academic journey. He had the opportunity to participate in research using remote sensing on their reservation to study fire and help prioritize management strategies (excerpt T25-11). He was also working full-time for his tribal Forestry Department while learning about their culturally-informed natural resource management practices. The research made him more involved and focused. He viewed attending college as an opportunity to learn and also part of his job. Because the research he was doing was on his
reservation and addressing issues for his tribal Forestry’s program it made the things he was learning hit home, whereas if he was learning about different tribes and their issues, it may not have been as easy (excerpt T25-12). Participating in research focused on his tribe’s forests, being employed in the field he was earning his degree in, and helping address issues for his own tribal Forestry program were helpers that engaged his attention, contributed to him being more focused on his coursework, and made his studies relevant.

**Professional advancement through his education**
One of the helpers that started I25’s academic journey was being hired in his tribe’s Forestry Department through an educational agreement that gave him the opportunity to go to school, learn, and then apply those practices he was learning in school at work. The experience of going through school while working put his career on a positive trajectory (excerpt T25-18). He started out working as an aid and after earning his Associate’s degree he became a technician. When he earned his degree and completed a six-month probation he was promoted again to Forester I. After he graduated with his Bachelor’s degree he became a Forester II. At the time of the interview he was hired as the Forest Development Program Manager (excerpt T25-20). The education agreement was a helper that supported him as he pursued his degree and helped his career progress.

**Hardships**
I25 had many positive educational experiences and had only one hardship. The hardship I25 faced was writing papers, especially his 30 page senior thesis (excerpt T25-21a). Fortunately, I25’s academic mentors helped him through his thesis (excerpt T25-13). Writing papers was I25’s only hardship, he never experienced anything that made him dread being at his college (excerpt T25-21b).

**Lessons**
I25’s personal, academic, and professional experiences taught him lessons about being an American Indian in the field of natural resources, cultural influences on management practices, and the importance of academic preparation for working with tribes.
Being an American Indian in natural resources
I25 believes being a Native American in the field of natural resources has made him feel an obligation to protect his natural resources culturally and non-culturally to better their natural resources for generations to come (excerpt T25-22).

Cultural influences on management practices
I25’s tribe’s forestry program engages with their tribal elders by providing them information and taking them on fieldtrips to show them their ideas and prescriptions. Their program invites the elders’ input and invite their involvement (excerpt T25-23). Their program’s management reflects many cultural values and beliefs. For example, the way they treat areas and areas they avoid are influenced heavily by their cultural beliefs (excerpt T25-24). I25 believes working for a tribe and representing tribal people on tribal lands means you have to go to the tribal people and see how the lands were, should be respected, and should be treated. That is one of the top priorities of his department (excerpt T25-25).

Importance to have academic preparation for working with tribes
I25 also believes anyone who might want to work in a tribal organization or with tribal members should attend a tribal college or be exposed to coursework that includes some tribal knowledge. His colleagues who have come from other universities were taught a different view of forestry (excerpt T25-26). Being a Native person working in tribal natural resources has taught him the value of tribal culture guiding management practices on tribal lands and of tribal natural resources.

Vision
I25 thinks the ideal academic experience for American Indians pursuing degrees in the field of natural resources would include tribal knowledge about the plants, trees, fish, and all the natural resources (excerpt T25-27). For those people who will be working for a tribal government, they should know about that tribe's treaties, their government’s policies, their working relationships with the federal government, tribal use policies, and other procedures (excerpt T25-28). Other considerations are financial aid, mentoring, and faculty involvement. I25 also believes there should be culture included in the coursework (excerpt T25-29).
Nomethetic Results and Discussion

People

A diversity of people impacted interviewees’ academic journeys both positively and negatively by influencing their interest in the field of natural resources, their choice of institutions, or along their academic journey. People in their personal lives like family and friends; people affiliated with their institutions like staff, professors, and classmates; and people in their professional field acted as supporters or barriers to interviewees’ academic journeys. In other instances, there were people who were absent from the interviewees’ experiences who could have positively contributed.

Examining the roles and influences of people described in interviewees’ journeys through higher education is informative for institutions of higher education; current and future Native students, as well as their families and support systems; and Native communities. Identifying people who made significant impacts to interviewees’ experiences can help guide institutions with their program development for supporting Native students. People from interviewees’ stories can provide examples to current and future students of people within their personal life or their academic system who can significantly impact their academic journey and potentially how they can ensure those impacts are positive. The examples of people in the larger networks of interviewees can inform Native communities who are looking for ways to increase their own capacity at managing their natural resources and increase the number of their college educated members. Professionals, both Native and non-Native, in the field of natural resources can see ways they can contribute to increasing the number of Native students and eventual professionals in the field of natural resources. Last, some people and organizations have the goal of assisting Native students and can possibly fill some of the gaps where supportive people are needed.

It is culturally appropriate to acknowledge the people who have helped support and guide American Indian students, to recognize and honor their contributions. It is also helpful to acknowledge those people who have contributed to or caused hardships for American Indian students to inform institutions and future students so those peoples’ actions can be addressed by institutions or avoided by students. Identifying the people who are
absent or missing provides an opportunity either to find those people or implement strategies to develop people to fulfill those absent roles.

This nomothetic analysis will describe the people who influenced interviewees’ interest in the field of natural resources, their choice of institution, and their academic journey. There were five categories of people who influenced interviewees’ academic journeys: family, academic people, professionals, community, and missing. This analysis will discuss the influence of people within each category based on their influence on interviewees’ interest in the field of natural resources, their selection of institutions, their academic journeys, and their hardships. The impacts and influences of the first two groups were the most significant: family and academic people. Each section will be formatted either by the way that category of people were influential or impactful or by the specific people who were influential or impactful.

**Family**

Family members were usually the earliest people influencing interviewees’ interests in the field of natural resources and choices of institutions. They also continued to impact interviewees’ experiences once they entered college, but to a lesser extent than Academic People.

**Interest in the field of natural resources**

Family was the largest category of people who helped spark interviewees’ interest in the field of natural resources. Family inspired interviewees’ interest in the field of natural resources in three different ways: time outdoors together, teaching about natural resources, and by setting examples.

**Time outdoors together**

Growing up spending time with their family outdoors and using natural resources were ways family members contributed to interviewees’ interest in the field. Some families spent time outdoors for recreation or their outdoor activities were directly tied to their cultural practices.

Interviewee 19 spent a large part of his life with his family recreating in the outdoors. These outdoor experiences were some of the earliest that connected him to natural resources. This also helped to normalize
the outdoors and connect him to his tribal lands. To this day, he continues many of those same activities and enjoys just being in the woods.

“I grew up in a rural community where the outdoors was very much a part of our lives growing up. Hunting, fishing, camping, and being out in the woods were normal activities for us.” Interviewee 19

Interviewee 29’s outdoor experiences with his family were focused on fishing, which was an important part of his tribal culture both as a food source and for ceremonies. He attributed his participation with his family in their traditional lifeways of fishing as the main reason he ended up pursuing degrees in the field of natural resources. He continued this tradition with his sons and focused his graduated and professional work in the field of fisheries.

“Growing up fishing as a young boy. Our family were traditional fishermen. I grew up with some of those experiences on the river. That was the main reason I would say.” Interviewee 29

Teaching about the natural resources
Family fostered interviewees’ interest in the field of natural resources by teaching them about natural resources. Some family members fostered interviewees’ interest by stressing the connection Native people have to the land and the importance of taking care of it, teaching them how to be observant of wildlife signs and weather, and teaching them how to manage resources sustainably as ranchers.

Interviewee 20 grew up in a family with a strong ranching tradition and connections to the land. When he would go with his family to move cattle, his dad would always talk to him about their connections to that particular place. Hearing his father’s words while in those landscapes surrounded by the trees, wildlife, and water helped Interviewee 20 to understand those connections, which contributed to his choice to enter the field of natural resources.

“...every spring when I was growing up my grandparents used to take cattle out on the range. The landscape that we have here is we live in a valley and then there are mountains to the north and south of us. The range land is to the south. They would push the cattle over this hill and up into a range area...
My dad would always make sure to take a moment to allow us to see that landscape. He made sure to tell us that, “This is your home, this is your land, this is where you come from. Regardless of where you go in the world, this is always going to be your home.” ...Standing up on this hill and looking over the landscape and how beautiful it is and then going down into the landscape and being in the creeks and streams and the forest, seeing the deer, the elk, the fish and even seeing the more modern things like the agricultural things. Seeing the corn, wheat, hay, cattle, horses all of those things were so beautiful and so overwhelming to me... Knowing that we are tied to the earth through water, definitely had a huge, huge factor in my decision. I have to say that those two things are factors for my participating in the natural resources degree.” Interviewee 20

Interviewee 21 also grew up in a ranching family. Her father made conscious choices about how they managed their cattle to sustainably use the land and water. He would also take her to their local Natural Resource Conservation Service office when he was planning spring developments and other agricultural projects. Through her experiences with her dad out managing their water for their cattle and going with him to learn about other sustainable practices were influential in her career path.

“Basically managing and helping dad. We tried to distribute the water better so the cows would not, they would even create distribution. It was always something that I thought about because my dad was trying to develop the land so we could use it in a better way, sustaining way.” Interviewee 21

Setting examples
Family supported interviewees’ interest in natural resources through setting examples through their own work, their degrees, and through their encouragement.

Interviewee 5 grew up with her father working for their tribal natural resources department. She spent a lot of time with him at work over the years and saw what his work entailed, which she felt was also a good fit for her. “My dad has been in natural resources forever. I have watched him do that. I have liked that. It seemed like a good fit.” Interviewee 5
In addition, Interviewee 9’s mother worked in the environmental field for as long as she could remember. Her mother would talk with her about some of the issues she was addressing through her work. Interviewee 9 could see how important the work was to her mother and felt like she should try to have a better understanding on how important that work was.

“... my mom is a big influence, because she worked for tribes pretty much my whole life, and she was in the environmental field. She would talk about issues, even though she was not working for the [our] tribe. She worked for other tribes, and they had their own issues as well. So she would come home and talk about the different areas that they were working on and that kind of thing so I was exposed to that pretty early on, and I always could see how important it was to her. That made me feel like I should have a better understanding on how important that work is.” Interviewee 9

People within interviewees’ families were important for setting them on the path to pursuing degrees in the field of natural resources by influencing their interest in the natural world. They engaged interviewees in outdoor activities for recreation and their tribal lifeways. Family taught them about the philosophies they held regarding the natural world and their roles within it. Family members influenced interviewees with their words, interactions with the natural world together, and by their examples.

Choice of Institution
Some interviewees’ choice of institutions were influenced by their family members. Different family members were the main influence for their choices: parents, grandparents, their children, spouses, and siblings.

Parents
Some interviewees chose institutions because of the influences of their parents. Mothers were the parent most commonly mentioned. The ways parents influenced interviewees’ choices were through their suggestions, being at the institution as either students themselves or as employees, or having had attended the institution.
Interviewee 8’s mother was the most influential person regarding her decision to move back home and pursue her degree at her tribal college. Interviewee 8 had been living out of state with her family. She had a life and career away from the reservation. When she would visit with her mom on the phone, her mother would repeatedly tell her she needed to come home. Her mother’s words became stuck in her head until one day she acted on those words and moved home where she ending up attending her tribal college.

“Actually it is a mom thing. When I talked to her on the phone, mom was not particularly happy with me living in the south and my partner at the time. She, in her not so subtle ways, would encourage me to leave the south, because she was back up here at the reservation. She moved back up here in ‘84 I think. I was happy in the south, or I thought I was. I had a job. I had a partner. I had a house. I even had a dog. My kids were there. Well, not my daughter, she was in school later on. We would talk on the phone and she told me a couple of times, she would say, ‘Daughter, come home.’ ‘Oh mom, I do not want to. I got a life here I am fine.’ ‘Daughter, come home. Come home, your people need you.’ ‘Oh mom, my people do not need me there is a whole butt load of Indians up there they do not need another one.’ ‘Daughter, your people need you. Come home.’... I could just hear my mom somehow... I could hear her. So I looked at my tribal college and I came home.” Interviewee 8

Grandparents
Two interviewees’ choices of institutions were influenced by their desire to be in closer proximity to their grandparents.

After seeing a college football game on television as a child, Interviewee 2 had dreamed of attending college there. When he became an adult and was serious about his academic pursuits, his grandmother influenced his choice to pursue his degree at that institution rather than other possibilities. He had applied to attend a university out of state, but when his grandmother became terminally ill, he chose to attend the university in his home state he had dreamed about attending as a child. He was able to fulfill that childhood dream, as well as remain in the same state as his grandmother.
“I remember sitting in my grandma’s house when I was a little boy. I must have been eight or nine. I [saw] the [university football team] playing on TV... I was like, ‘I want to go to school there.’ It was just a pipe dream then. When I actually got serious about going to school... I was going to go to [another institution]. I applied there and I was going to go. However, my gramma, who I was given to as a child, she got cancer. She got sick. I was like, ‘[My state university], I have always wanted to go [there]. [They] have the same programs. I will just go there.’ That is how I ended up at [the university where I earned my B.S. and M.S. degrees].” Interviewee 2

Child
Interviewee 16 chose his institution so he could be closer to his son. After his son was born, Interviewee 16 had stopped out of college to work, so he could provide for him financially. He had been working hard labor jobs to provide for them, which did not provide much income. His son’s mother moved across the state to a town that was close to their state university, which had a degree program that interested him.

“[The university where I earned my B.S. and M.S. degrees], I moved over to [that community] because I have an older son who lives in [a nearby town] but I also heard about the Environmental Studies program there... I think it was my ex and my son moved to [that town], and I was still in [my home community on the reservation], it kind of hit me. I have got to get back over there. I have got to go see them. I am tired of working these small jobs and am barely able to give him money or his mom money. That was the other reason that I went to college again. That was the reason I went to [the university where I earned my B.S. and M.S.] is to be near him.” Interviewee 16

Spouse
Interviewee 11’s husband influenced her choice of institution based on the location of his employment. He would work in science departments of tribal colleges and was often funded through grants. When the funding ended, Interviewee 11 and her husband would end up at a different institution.

“It was mainly, because [my husband’s] contract would end from one college and then he would go looking for jobs and then he would end up [at another] university, he ended up being there for like nine
months. It was just a temporary job. That is why I ended up following him, because the grant money kept running out until he finally got to a large tribal college in the plains.” Interviewee 11

Siblings
Two interviewees credit their siblings with influencing their choice of institution through their attendance at those institutions.

For example, Interviewee 27 chose two of his institutions based on his sisters’ suggestions. Interviewee 27 had been working fast food and was tired of that job. His sister was attending their local community college, so he chose to attend there. He did not attend there for very long before moving back to their home state. He had another sister in their home state who was attending their tribal college, she told him about financial aid that was available there, so he enrolled there. He ended up finding a good fit in their environmental science program and graduated with his Bachelor’s degree.

“My other older sister was going to [a community college]. Her boyfriend at the time was also going [there]. I was working at Taco John’s and I just got sick of it. So I enrolled in [college there]. Being that they had an open-door policy, I did good on the ACTs and they took me in. From there, I transferred to [my tribal college]. That just kind of happened too, because when I went up there I was working construction, my sister was telling me about the financial programs. That was just natural too; an open-door policy.” Interviewee 27

Staying connected and close (both physically and emotionally) to their family members was an important factor in interviewees’ choices of institutions. Honoring their relationships with family members by choosing institutions in close proximity to family was one way interviewees’ choice of institution was influenced by their family. Being able to honor a mother’s wish, being able to provide for a child, being able to continue to live with their spouse when their place of employment changed, being able to be in the same area for sick loved ones, or heeding the advice of siblings are examples of how interviewees honored their familial relationships.
Academic Journey
Several interviewees credit their family members with providing support during their academic journey. There were three different categories of family represented: parents and siblings, spouses, their children, and family as a whole.

Parents, grandparents, and siblings
The first category of family members includes parents, grandparents, and siblings, who supported interviewees through their expectations, serving as examples, providing guidance, and offering help. For example, Interviewees 10, 13, and 21’s parents offered as much support as they could through helping with applications and even editing. Interviewee 20’s parents had set a goal for all their children to earn at least a Master’s degree.

Interviewee 2’s grandparents raised him with a fairly traditional upbringing, which made some of his class expectations challenging, because they conflicted with his teachings. One of his cultural protocols is only to speak in public when you are given that right. His classes sometimes expected him to give presentations which left him feeling conflicted about going against his tribal beliefs. When he discussed the hardship with his grandmother, she gave him her permission to do what he needed to do for his coursework, which helped him to be more accepting of the class expectations.

“I had to give class presentations, that was so difficult. I actually told my gramma about that. I was struggling in some of my classes. “They want us to get up and speak in public and we cannot do that.” She goes, “Just do what you have to do just to get through it.” She basically told me it is okay.”

Interviewee 2

When given the opportunity to pursue a graduate degree, Interviewee 14’s family supported her decision, which was important to her. She believed she could not go through the graduate school process without their support.
“I then had a big meeting with my husband and my dad and said I could not do this without them, because it has to be a family effort. My dad thought it was a good idea. It was just me, one of my sons and my daughter that moved there.” Interviewee 14

Spouses

The second category of family, spouses, provided support for interviewees during their academic journeys.

Spouses provided support with various aspects of interviewees’ academic journeys such as finding an appropriate institution, securing financial resources, sharing interest in their field of study, helping manage their family so they could focus on their studies, and advocating for them. Although it is likely spouses provided emotional support as interviewees pursued their degrees, the support interviewees described included intellectual, financial, and academic support, as well as advocacy.

Interviewee 1 appreciated having her husband in the same field as her. He was able to provide her intellectual support through their exchange of ideas and by his understanding of her interests.

“I think that having my husband who is also in the same field... that lives in the same sort of realm as you, makes a huge difference, not only with the ability to exchange ideas, and I assume it would be the same if it was a family member, somebody close to you. It makes a huge difference when they understand what your interests are academically and professionally.” Interviewee 1

Interviewee 2’s wife worked in student support services at the institution he was attending and was able to use her professional knowledge to identify resources and services for him. Her assistance in identifying financial resources and support services provided financial support for their family and academic support to Interviewee 2 as he pursued his degrees.

“Because she worked in the support services program, she worked with a lot of students [who] were struggling. They would come to see her and ask her what they could do. She would always help them out and find new resources. Because I was a student and we did not have much money, we were able to qualify for all those resources as well. She would apply for housing and that stuff. Just things like
that. Then she would send me to people on campus if I needed help like tutors and who to see. That really helped a lot.” Interviewee 2

Interviewee 16’s wife was also completing her Master’s degree and was able to provide him with suggestions on how to navigate the system more smoothly. Her guidance helped him make good decisions in his academic process.

“Then I eventually met my wife... and she was very instrumental and pushed me to complete my Master’s because at that time she was completing her Master’s. She knew everything. She knew what you had to do. She knew to do a professional paper, a thesis. She gave me a lot of good information.”

Interviewee 16

Interviewee 27 experienced multiple hardships with his advisor. His wife ended up advocating for him after his advisor suggested he should remain a student another year to gather more data.

“My wife was there and was like, “No, he is graduating.” He did not like that. I wanted to get this done so I was glad my wife spoke up for me... Had it not been for my wife, I would have folded. He is my advisor. She stuck up for me and saw what was happening.” Interviewee 27

Their children
Interviewees described the impact their children had on their academic pursuits. Interviewees’ children impacted their academic journeys by changing how they managed their time and their perspectives on their field of study.

The birth of Interviewee 17’s son gave him a new perspective about his pursuit of his degree and natural resource management. In addition to reaching his academic goals for himself, being able to meet those goals became more meaningful when he had his son. Also, to some degree, thinking about his work in the field of natural resources for future generations went from somewhat of an abstract idea to more concrete after his son was born and he was able to connect his professional goals with his son’s future experiences with natural resources.
“Everybody talks about you have kids and that becomes your whole world and yet to succeed in an academic field, especially at the doctoral level and beyond, your priority still has to be focused on succeeding and to be accomplished. So now it becomes more of a little bit of a tugging war more than what I would have expected or initially thought. You have obligations that you know you need to meet to reach that end goal. But, on the other hand, you want to reach that end goal even more now, because you are trying to accomplish something for not only yourself but for your family and kids. There is a sense of pride getting to that level and meeting that goal... You want to leave the place as you remember it or even better. I think that is a really big part—once you have kids you start thinking beyond yourself and thinking about the future. I am doing this because I want to but it means a lot if my son sees bison running across [our reservation]. It broadens your views to a lot of different things.” Interviewee 17

Family as a whole
Family as a whole positively contributed to interviewees’ academic journeys. Some interviewees described their family as having specific expectations regarding interviewees earning college degrees. Family members also acted as role models or supporters who influenced interviewees’ academic pursuits. Family also provided financial support for a few interviewees.

“A lot of my family, they are fairly educated people. They have a lot of influence on me, what I think, and what I try to accomplish. I think they influence my views.” Interviewee 6

“Supporters and encouragers and sometimes financial providers. School is not that cheap and it is difficult, and sometimes you need a family pushing you to get stuff done and stay focused. This is an opportunity not a privilege. They played a big role in my education.” Interviewee 25

Hardships
Some interviewees experienced various hardships related to their families along their academic journeys. Some family members were not supportive of interviewees’ academic pursuits or choices. Interviewees also had family members pass away or needed caregiving. Interviewees also described the hardship of being away
from family or not having as much time for their families because of their academic journey. Some interviewees also found themselves in stressful situations with family members related to maintaining their cultural identities, as well as being single parents making sacrifices for their children.

**Unsupportive family**
A few interviewees had family members who were not supportive of their academic pursuits either by their lack of support of education or their lack of support of interviewees’ educational choices.

Interviewee 8’s family was supportive of her going to college but did not support her choice of institution.

“So when I said that I wanted to go to school and go to college, my family was all for it, but they did not like my choice, it being in tribal colleges, which really and truly have, in some circles have a negative impact due to the perceived lower expectations. My reason for showing up here at this college has nothing to do with academic wonderfulness and everything to do with tribal and my preparations for coming to this college were very simple.” Interviewee 8

Interviewee 24’s parents did not graduate high school or attend college. They did not bring her up in an environment that valued education.

“My grandmother was gone by then, and my parents were kind of supportive but not incredibly supportive, they did not really care... I did not even know what that was because I did not grow up in an environment where you valued an education or neither one of my parents ever went to college or even graduated from high school. I never knew anything about that.” Interviewee 24

**Loss of family members**
People within participants’ family passed away while they were pursuing their degrees, which also impacted their academic journeys. The impacts of the losses were different for interviewees, some had their academic progress negatively impacted and some were motivated to fulfill their loved ones wishes by completing their degrees. For some interviewees the loss of their parents helped to motivate them. Other interviewees’ losses experienced grief that negatively impacted their academic experiences to varying degrees. Both Interviewee 4
and 27 lost a parent while pursuing their degrees. Interviewee 4 finished her degree, because that was what her father would have wanted.

“Then I lost my dad in there. That was getting towards my last part. But I went back. I went back, because my dad wanted me to, so there was kind of more of a meaning to when I got done.”

Interviewee 4

Interviewee 27 experienced a lot of grief from the loss of his mother, which was compounded by leaving family members to pursue his education. His tribal language teacher and another staff member helped him process that grief.

“I would see my teacher and she was so, my Lakota teacher, she was so humble and soft spoken. She reminded me of my mom. I could go into my counselor’s office and talk to her about anything. I lost my mom in 2009... The most difficult things are more on a personal side like leaving family members and having to overcome grief.” Interviewee 27

Caregiving or taking care of family members
Three interviewees also took care of family members who sometimes had illnesses or special needs while they were pursuing their degrees, which added to their hardships faced having family members diagnosed with cancer during their academic journeys. Interviewees 7 and 30 had parents who battled cancer. Interviewee 12’s son also battled cancer. Both interviewees 7 and 12 ultimately ended up earning their doctorate degrees, while interviewee 30 continued to work towards earning her Bachelor’s degree. While caring for his mother on a leave of absence from college, Interviewee 7 made a commitment to her to make something of his life and returned to college with a new vision and motivation.

“My mother was diagnosed with terminal cancer, stage IV breast cancer, which became lymphoma. Towards the end, she was on 24-hour watch. I was always pulling the graveyard shifts with her to give my sister break. I would always hang out with her from roughly 10 o’clock to 11 o’clock at night until six or seven in the morning.” Interviewee 7
Interviewee 12 had to figure out how to balance taking care of his ill son and completing his Ph.D.

“My son was really sick when I was in my Ph.D program, I mean a two-year old with cancer. While getting my Ph.D that was the biggest challenge I faced in my life... One strategy that worked at a particular point in time, and now that I think of it, thinking out loud, the same strategy has helped over time; being able to just shut everything off, switch gears, and just shut everything else off, isolate myself and focus on work. “Okay, my son is in a good place now, he is in good shape. He is in good hands. I can go away for six hours or I can go away for four days or whatever it is I can carve out.” I can just shut everything else off and go through that slow process of changing gears.” Interviewee 12

Interviewee 30 balanced being a single mother of an infant, taking classes, as well as staying involved in her father’s chemotherapy treatments.

“Me and my baby moved back to the nearby city and that was pretty rough too. I had to make sure that she was in daycare and that everything was setup to work. I am glad that my dad got to spend the time that he got to spend with her because right after that he was diagnosed with cancer. That was the spring of 2010. In 2011 he started his chemo, so I would travel back and forth from where we lived to another city to go and see him while he was in chemotherapy and all that so it was like 2011 here at the university in my state.” Interviewee 30

Three interviewees had family members they helped by either being a caregiver or by dropping out to work to provide for them financially.

Being able to be close to his parents and help take care of them was a significant factor for Interviewee 13 to move back to his home state where he ended up pursuing his Ph.D.

“That is part of the other reason why I came back to [my home state] to get my Ph.D. My parents were at a point where they could not even walk from one side of the house to the other. They were on some bad meds and that made it happen. They are fine now. Part of me coming back to [my home state] was
to take care of my parents and to take care of the homestead. That was a big reason why I came back here.” Interviewee 13

Interviewee 16 stopped out of college to work so he could support his son. Most of his jobs were hard labor.

When he realized he could not continue that kind of work he returned to college.

“Then I started my second year and about half way through is when my son was born. I ended up dropping out and started working. Then my son’s mother went to school while I worked and we were together for another four years and then we moved on... For the next 6 or 7 years, I did hard labor and it gave me that whole drive that I cannot do this for the rest of my life. That was beneficial.”

Interviewee 16

Being away from family
Some interviewees expressed either having less time with their families, the hardship of being away from their family, and not being able to help their relatives because they were away from home while pursuing their degrees.

Interviewee 12 described seeing his Native students being pulled by the desire to stay involved in their families’ lives back home and participate in events in their home communities.

“I think just being away from home is part of that process. You know if you are not there then you are not there. You are not able to contribute. You are not able to help your relatives. You are not able to see the changes in your nieces or nephews as they are growing up. If you work for a whole year in school, a lot changes. I think you definitely see it when someone passes away in a students’ community or family and they have to go away for not just a day or two but for a week or two. You feel them being pulled. They have to make the decision to be there for their community or to keep up with their classes. And in any institution, especially in one with a quarter system like my current institution, and you are gone for a couple weeks you miss a lot. It is really hard to catch up.” Interviewee 12
Interviewee 13’s children grew up while he was pursuing his degree. He spent a lot of time in the classroom as a student and even continued to take classes after earning his Ph.D.

“My kids have been raised with dad in school until this last year. This is the first time my kids, my kids have never seen me out of school and I am still taking classes.” Interviewee 13

Sacrifices for their children
A few interviewees experienced hardships related to maintaining their children’s cultural identities or their family’s personal safety while they were pursuing their degrees.

Interviewees 2 and 29 both expressed a desire for their children to stay connected to their homelands to be able to practice their tribal culture.

“The long term impacts are, my children, because of my educational experiences, ending up getting a job here with the federal government in natural resources is that I cannot get home to have my children experience that. I cannot give it to them in our homeland like it was given to me. That is really a big impact for me.” Interviewee 2

“I do miss exercising my rights, fishing rights. And my boys also are constantly on me about that too. That has been a sacrifice being away. We do not have hunting and fishing rights up here. We are out of our area. As you know, that is an important part. My plan is to get closer so we can do those things together.” Interviewee 29

Interviewees 29 and 30 also experienced hardships related to being single parents and impact of their educational journey on their children. Interviewee 29 believes some of the choices he made to earn his degrees and succeed in his professional career were not worth the price paid by some of his relationships and his children.

“I know you want to think of it as achieving and doing great things but there is also a balance that needs to be done. You could still do great things but you also need to take care of yourself. That is one
thing that I am learning now is that I have overlooked a lot of things in my life. I overlooked, to achieve the highest levels that I have has come at a price. It has come at a price with relationships, with my children. Now I am like some of it was not really worth it. Would have I done it this way again? I do not know. It is like a value system in that you have to rethink things. Right now, I look at my boys and say, ‘These guys are really the most important things in my life.’ It is really difficult being a single parent and doing this. If you have a partner, some of this can be mitigated. So that has been a challenge.”

Interviewee 29

Interviewee 30 experienced multiple hardships while parenting alone and pursuing her degree. Even through those hardships, she continued to pursue her degree for the sake of her daughter.

“I decided I needed to finish and just get a degree already and then just go on to some other avenue especially because of [my daughter]. I need to bring her down a different avenue than what I was brought on because somehow it was blended with the pain that I endured the whole way through personally. I have strived through it, most of it but I have still got the stats [class] that I have got to take care of.” Interviewee 30

Some examples of the hardships she encountered began while she was pregnant. The father of her child became abusive, and she filed a restraining order against him for her safety and the safety of their unborn child. Then the father of her child passed away before their child was born. Once her daughter was born the father’s parents did not want to acknowledge the child. Interviewee 30 pursued legal recognition for her daughter. Interviewee 30 had little experience with babies and had to learn how to take care of her daughter. She returned to school and struggled with balancing caring for her daughter and the demands of her classes. During that time her father was also diagnosed with cancer. Interviewee 30 participated in commencement even though she had one class remaining. Then she took a job working for a tribe down south. She found bruises on her daughter from the tribal daycare and sought resolution through the tribal administration but
received no support. In the following excerpt, she begins by explaining why she continued to work through every hardship, many times alone without anyone advocating for her and her daughter.

“I did not want to look back, because we are mothers and we are sacrificing to our children because that is the Native American woman is your child is first and you are second. That is our unselfish way. My daughter was only probably two and she had handprint bruises on her legs, so I went to the Tribal Administration and said, ‘Look. Do you see these bruises? What can we do now, right now? Are we going to write this up?’ She said she was just the acting administrator, the tribal administrator was fired, blah, blah, blah. I was so mad and furious. Now I struggle with leaving my own daughter’s side daily. Forget what happened to me in the past and all the things that I have survived, this is my daughter and somebody has put their hands on my daughter. So we left and I never looked back.”

Interviewee 30

Take home message
Many interviewees’ families were influential and supportive of their academic interests and pursuits.

Interviewees acknowledged their families’ positive contributions to their academic journeys. Often times it was the experiences interviewees engaged in with their families where the initial seeds of interest in the field of natural resources were planted. Family members also led by example with interviewees following in their footsteps. Other times, family members offered words of advice or encouragement to interviewees. Through those various ways, family provided emotional, financial, and academic support.

Some interviewees experienced hardships related to their families such as emotionally unsupportive family members, experiencing the grief of losing loved ones, and the physical and emotional pulls of being caregivers to family members. The hardships were often not intentional or malicious events or situations created by family members. Some of the hardships were the lack of support from family due to their perspectives on interviewees’ choices or their family members’ lack of valuing education. Some of the other hardships interviewees described were related to interviewees’ desire to be able to contribute to their families by being proximally close to their family members, by keeping their children connected to their tribal cultures, or to
keep their family members safe. Interviewees found strategies to either overcome those hardships or be more accepting of those circumstances.

Institutions have the opportunity to provide additional emotional support for students through their connections to their families by providing financial resources or flexibility with their courses if they need to return home. Native families can be a great emotional support system and provide strength for students, as well as add to their responsibilities or their feelings of disconnection. Native people intending to pursue degrees or currently pursuing degrees should continue to draw from the emotional support and advice their family members offer, as well as work towards maintaining a balance between family and school.

**Academic People**
The category of academic people is comprised of K-12 and college staff, faculty, administrators, and other students. As would be expected, academic people were the largest group of people impacting interviewees’ educational experiences. They did have some influence on developing interviewees’ interest in the field but to a lesser degree than family members. They played a larger role in influencing interviewees’ choices of institutions. They were also frequently impactful on the academic journey of interviewees.

**Interest in the field of natural resources**
Some interviewees had teachers in the K-12 schools or in college who influenced their interest in pursuing degrees in the field of natural resources. Interviewees described specific teachers, attributes of inspiring teachers, supportive teachers, and teachers who provided opportunities, which influenced their interests.

Interviewee 5 had a specific grade school teacher who fostered her interest in the sciences and specifically the natural resources. He was able to identify her personal interest in science and connect it to her father’s work in the field of natural resources. When she became an adult her teacher had become a faculty member at her tribal college and continued to foster her scientific interests and academic pursuits.

“[My grade school teacher] teaches at [my tribal college] now. He was my teacher when I was in fourth and fifth grade. He was going at a very science-based mind... I think it was probably like his emphasis
area. He was really interested in the fact that my dad [worked in the natural resources field], it was the way to tie everything together, having a student whose parent did that kind of stuff. When I had this microscope, I would take samples all the time and then take it into class. We would mess around with it. I obviously did not have any friends except this microscope, it was my best friend. He kind of tried to make a link between, like with water quality, when I was in fourth and fifth grade...” Interviewee 5

Interviewee 12 had field experiences in college with educators who also fostered his interest in the field of natural resources. He credits the combination of their knowledge, their methods of teaching, and being in the field as the factors that made those experiences so impactful.

“Thinking about the schooling years... probably the most intense, powerful, impactful was just spending time in the field, like in the woods with really knowledgeable people [who] are really good educators. Being in an environment where you are not in lecture, you are not in an exam, you are just in the field learning from somebody directly, hands-on, and somebody [who] is a good teacher. I had several people [who] were good at that, one in particular, but I did have several. Those are the most poignant moments... I enjoyed learning. I did not love it, I was just kind of doing... But when I took classes that got me out into the field labs, like we went outside to the woods with a knowledgeable person [who] was good educator and they were showing me stuff... That absolutely captivated my attention. It just felt right. So, I could have been tapping into something that is just beyond the intellectual side of things, but certainly intellectually it just worked for me, I learned. I was a better student. I learned more doing hands on stuff outside... After I had my first class that was like that, when we were outside, big labs, you know four hour labs every week. We were learning plants, we were learning how things kind of work. I was just kind of hooked. I was like I think I can easily cruise through this program and I can enjoy it if I can take a lot of these types of classes, and so that is what I tried to do. Take as many of those kind of field oriented, active learning, hands-on classes as I could and figured out what I wanted to do with that education along the way.” Interviewee 12
Interviewee 27’s tribal college staff saw him excel in the maths and sciences. They recruited him into their environmental science degree program. They were able to identify his abilities and potential and connect him up with an appropriate program within their institution. Their program also had financial support for him, which was another factor that influenced his decision.

“The math and science department had saw that I got an A in general college biology and a B in survey of algebra... So they picked me up. They were like, “Hey, we are going to give you this money and pay for your tuition if you enroll in a math and science major.” I took a look at their program... They have a really strong math and science program. I enrolled in interdisciplinary environmental science... I was good at math and science anyway. And then being supported by that to go into that field, it was an easy choice.” Interviewee 27

Choice of Institution
Interviewees’ choices of institutions were influenced by academic people. People in different levels and in different roles of the academic system were influential: high school, college faculty, and college community. Interviewees described the impacts of serendipitous meetings, targeted recruitment, long-term personal or academic relationships with teachers, faculty reputations, students at the institutions, and staff members.

High School
While in high school a few interviewees interacted with people who influenced their choices of institutions, one was a recruiter and the other was a guidance counselor.

Interviewee 15 attended high school off the reservation. Although she did have an immediate interest or intention to attend college, she was offended by her guidance counselor giving her a catalog for her tribal college. Her fellow students were receiving catalogs from other institutions in the state and abroad. She figured she received the tribal college catalog, because she was Native. Even though she had been offended, she kept the catalog and eventually ended up attending her tribal college.
“When I was a senior in high school everybody had to go talk to the counselor about what [I was] going to do with [my] life. I was like, ‘I do not know, I am probably not going to go to college.’ So, he gave me a catalog for [my tribal college] and said, ‘I think this is where you should go. It is your best bet.’ That was the end of the conversation. I left with this catalog, and I was offended because I thought that maybe I wanted to go to [a larger state university]. I only got one catalog even though I did not care about college at that point. I took the catalog and flipped through it occasionally. When I moved over to [a small community on the reservation] I took it with me and it is the catalog I looked in when I decided I was not going to continue to be a waitress the whole time. I better do something, plus I was working two jobs to even have money.” Interviewee 15

**College faculty**

After high school, several interviewees engaged with faculty members who either recruited them into their programs or made suggestions that influenced their choices of institutions. Some of these interactions were initiated through conference attendance, through interviewees’ search for programs and/or institutions, or through their personal (non-academic) relationships.

For example, Interviewee 23 was friends with a faculty member at his tribal college prior to becoming a student. Through their conversations while fishing, he decided to attend there.

> “I am always fishing out there with [my tribal college professor], and we talked about it. He was the department head at the time, and I figured that would be a good place to start whether I went to a university and went on somewhere else after [my tribal college] as a graduate program. I just started there and I never left.” Interviewee 23

**College community**

There were other people associated with the institutions like other Native students, staff, faculty, or some combination of those people who influenced interviewees’ choices of institutions.
Interviewee 18’s choice of institution was influenced by the suggestion of her tribal college faculty and other peoples’ recommendation of the support services available for American Indian students at the institution.

“I think it was a toss-up between [my state’s land grant university] and [the university where I earned my B.S. degree], but I do not remember exactly [what] steered me towards going to [the university where I earned my B.S. degree], but it might have been [my math instructor at my tribal college]... She had mentioned that... there was the Wildlife Biology Program there. Somebody... told me about American Indian Student Services at [the university where I earned my B.S. degree] saying how they have a really great support system. They told me that is why they would pick [the university where I earned my B.S. degree] over [the land grant university].” Interviewee 18

Academic Journey
People active in the field of education positively contributed to most interviewees’ academic journeys. There were seven different categories of academic people: high school teachers, staff, the combination of staff and faculty, broader campus community, faculty, mentors, and other students and student groups. Academic people typically provided support and assistance to interviewees with the educational process (e.g. applying for admission or financial aid). Academic people also provided emotional support through helping reduce feelings of isolation by contributing to a sense of community or inclusion. Similar to family members, academic people also provided inspiration and encouragement, as well as served as mentors for interviewees.

High School Teachers
Two interviewees described high school teachers or staff who provided some level of assistance in college preparation.

The support and encouragement Interviewee 9 received from two of her high school teachers gave her the confidence to believe she could go to college and graduate. They also helped prepare her for college by their recommendations of coursework.
I had two very wonderful high school teachers. One was my science teacher and the other one was my math teacher who were, they helped me with choosing classes, I actually do not remember that long ago. So much has happened since then but I just remember mostly that they were very supportive and encouraging and that meant the world to me. That inspired me to have the confidence that I could go to college and that I could graduate. They never doubted that I could do that. So that is really the most that stands out to me.” Interviewee 9

Interviewee 28 had high school counselors who appeared helpful at the time, although after completing his degrees he is less sure how helpful they were. After earning his Master’s degree he was able to reflect on his high school experience and see ways his high school counselors could have better assisted in preparing him for college.

“Yes and no. Yes, we had counselors. At the time I thought they were very helpful but looking back on it, I do not know how helpful they were.” Interviewee 28

It is also worth noting Interviewee 30 attended the same high school and was unsatisfied with the lack of advising she received from the guidance counselors. Her specific comments are included in the Hardship portion of this section.

Staff
People who worked in student support services were also supportive of students in various ways like by encouraging them to apply for scholarships or counseling positively impacted interviewees’ academic journeys.

Staff assisted by providing counseling, advising, advocacy, identifying scholarships, and assisting with financial aid.

Interviewee 15 was going through a divorce while pursuing her Master’s degree and sought counseling services. Her first experiences with counseling were not beneficial, but after trying a few different counselors she found one at student support services who provided beneficial services for her. After that experience, she chose to encourage friends and others to pursue counseling if they needed help.
“The only time I had been to a counselor was at my [university where I earned my M.S. degree]. They had student counseling, so you could go there, and it is like other students and they sit and listen. When I was here in the nearest city, I had tried to go to some counselors [who would pay people; they were horrible. This one woman was like, ‘I cannot wait until next week when you come back and find out what else happened.’ I am like, ‘What am I a soap opera?’ I am not even coming back next week now. I am out of here. The lady I saw at the student support service was great... When you go to a counselor, you can just say whatever you want to say and you do not have repercussions. Maybe that person thinks something about you, but they are not in your circle or in your life. None of what you say ever comes back to haunt you. I did not tell my friend who then told somebody else... Counseling is a big deal. I tell people, ‘Do not be afraid. Just go there and get it out of your body. Get those words out and let it go.’” Interviewee 15

Interviewee 8 had been recruited by her tribal college and experienced having engaged staff who helped to identify funding opportunities for her. She also commented the kinds of financial aid they steered her towards were either scholarships or internships that gave her hands-on, field experience rather than unrelated work study opportunities.

“They empowered me by ensuring the charges were made available to me, not that they ignored them or ignored me but they made sure that every scholarship for which I was qualified were put in front of me and said, “Do you want to apply for this? Do you want to apply for this?” I was supported through scholarships and internships, not work studies, internships where I worked in the field and learned hands on science.” Interviewee 8

Staff and Faculty
Staff members, as well as the combination of staff and faculty members were other academic people who contributed positively to interviewees’ academic experiences. Faculty and staff provided assistance navigating the academic system, encouragement, information about various opportunities, and were available when interviewees requested assistance.
Interviewee 2 attended a private university where the staff were extremely supportive compared to at those other public institutions he attended. Staff and faculty made him feel like they wanted to see him succeed and would give him the one-on-one attention he needed. At other institutions, he felt he was on his own to figure things out and succeed.

“The faculty was great. The staff was great. The school was very...they worked a lot of one on one with you. If you were struggling, they were able to push you further. They really wanted you to succeed. I have never seen that anywhere before. When I transferred to one of the state universities, it was totally different. You did not get that one on one attention and you were basically out for yourself to succeed. You had to go out and ask for help. When I first got here, I was struggling a little bit. As I gone through stuff later on, it got easier and easier. Then my wife got a job here. Then I was able to find out more resources and use them... They just really pushed you. In terms of helping you if you were struggling, they had you go to different places. Since it was so small they were able to get more one on one with you and know where you were struggling and to see when you are struggling and to make recommendations, what to do to help you out.” Interviewee 2

When Interviewee 17 transferred to a larger institution, he benefitted from a staff member in his college who helped identify various opportunities. His initial opportunities provided him with research experience and financial assistance to complete his Bachelor’s and Master’s degrees successfully.

“I would say that [the Native staff person who worked with my college’s Native students] is the one [who] provided most of my initial opportunities that really jump started my ability to get my foot in the door. That it was provided through the Native American office.” Interviewee 17

Broader campus community
People in the broader campus community also helped interviewees have positive experiences by being part of a support system for them through providing access to their resources like tribal information in the library,
having strong Native American studies degree programs, the presence of Native people on campus, or by the nature of being a tribal college.

Interviewee 23 attended a tribal college and felt supported and more than just a number. He attributed some of the attention he received to the smaller size of the institution. Employees seemed to care about him and were available to provide him with assistance. Although he was a Native American attending his tribal college, he believes the dynamics and goals of the institution were more relevant to his positive experiences.

“It was good. Everybody was helpful, and I do not know if it was because it was a tribal college and the classes are small. I guess everybody knew you; you were not just a number. There was never like if you fall behind then you are on your own and they do not care as much. There was always somebody there, and I felt we were treated very well. I cannot say it had anything to do with being a tribal member or being of Native American background at all. I think it was more or less that college itself.” Interviewee 23

Interviewee 28 experienced encouragement and support by the Native community (e.g., Native American Studies program) on his campus. There were also changes on his campus that facilitated more interaction of the Native community and access to Native faculty outside of class. In addition to the encouragement and support he received, he also felt a sense of community and belonging.

“I think it is the encouragement in the Native community. The Native American Studies Program has evolved over time, and I think gotten a lot better at creating a sense of community and a support system outside of family for Native students on campus. It has been interesting to witness that change occur. I think in the beginning when we had that meeting I made the point about the Native American Center and that was drastic in how much of a difference that made. Being on campus prior to that I did not really have much interaction with faculty other than classes. I did not really talk to them much. That other building that they had was so funny and small. It was more of this kind of out-of-sight element even though I think there were still some events that they had. I think that changed it a lot. It
has been interesting to witness it kind of evolve over time and become better. Certainly there are lots of things that could improve but for the most part I have felt somewhat of a sense of community here.”

Interviewee 28

Faculty
Faculty members were another group of academic people who positively impacted interviewees’ academic experiences. Being well qualified and supportive faculty, especially when advising were some of the attributes of faculty members interviewees found beneficial. Being able to interact with Native faculty or faculty who fostered or supported students incorporating Native culture in their coursework or research were positive for some interviewees’ academic journeys.

Interviewee 5 had two different experiences with faculty from her tribal college where she earned her Bachelor’s degree and from her non-tribal institution where she earned her Master’s degree. She appreciated the previous professional natural resources experiences of her tribal college faculty. Many of her tribal college faculty members had been employed in the field of natural resource management prior to becoming faculty members and were able to use those experiences to guide their priorities of what to teach to best prepare their students for their future careers in the field of natural resources. In contrast, at her non-tribal institution many of her professors had the appropriate academic preparation to teach, but not the same kind of practical experience as her tribal college faculty where she felt they better prepared her for entering the workforce in the field of natural resources.

“I feel like at a large institution you get folks who do not have the practical experience but who are the intellectual expert but have not actually applied [their knowledge in the field] or you get the people who have applied a lot of [their knowledge in the field] but do not have intellectual part of it. At my tribal college, it is more people who did go to school for [degrees in the field of natural resources] and then have [worked in the field] for a while and then now are teaching. I feel like they knew what is going on, they knew at the end of the day when everybody graduated this was the type of stuff people would probably going to be doing, so that is what we are going to get you ready for.” Interviewee 5
Although Interviewee 24 had an upbringing rich with TEK, she did not know it was a field of study until she was a young adult. Once she learned TEK and Native science as fields of study, she became passionate about bringing those fields of study and knowledge systems forward in her classes. She had professors who were open to learning about TEK, Native science, or Native ways of knowing after she brought those concepts to their attention in their classes. In turn, many of those professors would become excited to learn more and share it in their subsequent classes.

“I remember over and over having professors who did not even know when I would say “TEK” that it meant Traditional Ecological Knowledge or Native science or Native ways of knowing; they would have no idea that was a field of study or a concept... to their credit, almost all of them were very interested. I had a lot of professors after I would mention it, they would go off and find a couple of papers on something that had to do with traditional natural resources management. They would then be very enthralled by it and said they could incorporate that into their classes. I was very proud of that.”

Interviewee 24

Mentors
Mentors comprised another group of people who were from interviewees’ campuses or tribal communities who supported their academic journeys through their guidance, support, encouragement, and providing interviewees with opportunities. Interviewees also acknowledged the mentorship they received was not always part of a formal mentorship program or process and sometimes lasted well beyond the completion of their degrees. Mentors came from their campuses or their tribal communities. Another kind of mentorship that was significant considering the low representation of Native American women in the field of natural resources was the mentorship female interviewees received from other women while they were pursuing their degrees.

Interviewee 11 had multiple mentors on her tribal college campuses who were available to discuss ideas, assist with coursework, and encourage her along the way.
“I think anytime I had a question they would try to answer it. With [one of the female faculty at my tribal college], she would be right there and explain it to me, even, in turn, asked me questions about what I thought about it. She would kind of correct me, but the majority of the time she would tell me I am right on. [One of my male tribal college faculty in the science department] was really interested in what you did and what you were looking at, your coursework and all this other stuff. It was really helpful to have someone like that encouraging you along the way. Same with [two other female faculty at my previous tribal college], they were like that, very helpful.” Interviewee 11

Interviewee 7 had mentors whom he worked with in the tribal community who worked with him in bison management. They taught him about how their tribe’s management decisions were informed by their tribal knowledge and values.

“I learned from [several Native men] from that reservation [who] were part of the tribal bison program. Those guys took me under their wing. How they managed their program was in a very tribal culturally structured way, including those times when they would harvest an animal, which they did quite often. Their tribal kill ceremony was observed every time before an animal was harvested, at least it was back then. I do not know if that is any more, that back then when those boys were part of it that was the way that they taught me. I grew to really respect and appreciate how their tribe did things.”

Interviewee 7

Interviewee 14 had originally entered higher education with the intention of becoming a physician. After working in the medical field and observing how white, male-dominated the field was and how poorly female nurses were treated, she abandoned that dream. When she entered the natural sciences, she also observed it was similarly white, male-dominated. When she did encounter white female faculty, she had hopes they would be able to serve as mentors or advocates, but felt betrayed by their lack of support of her. She was eventually able to have a Native female mentor who had experience working in academia and could provide perspectives not many other people in academia could understand, being female and being native.
“I started realizing that if I had to... I do not know what other way I can put this but, I started realizing that there were different women [who] were in the sciences, [who] were older, [who] one of my mentors is [a Native professor] and we are very close and stay in very close contact. She had said one time that, and it was so moving, she was talking at this thing we had recently, the Native Science Fellow’s Conference and she had said they were talking about what makes a Native person successful, basically. She said, “I had to deform myself in order to get my Ph.D in botany. I had to leave all of the things that made me culturally who I was, left them all behind and I became a white man. Then I became a successful scientist.” She said, “You can help your students by letting them be who they are and bring what they should be bringing, this new knowledge, to this discussion.” She writes so poetic she says that she is not even respected in her department and her writing is not in any of the major science journals, they just do not have it.” Interviewee 14

Fellow students
Fellow students helped interviewees as they pursued their degrees. Interviewees described the relationships they developed with their fellow classmates. Interviewees also described the importance of being able to connect with other Native students on campus who understood their experiences or became part of their support systems.

Interviewee 3 attended a non-tribal institution in her state and appreciated making lifelong relationships with fellow students. After earning her Bachelor’s degree, she worked for a couple different tribal colleges and observed the benefit of having larger degree programs.

“A lot of the friends I have today and a lot of the people and professionals I call upon today are those [who] I went to college with. Even now, hauling our kids around to these wrestling meets all over the state. If I had relatives had a flat tire on the side of the road and had people pull over, so on the human level on a personal level, creating those relationships you cannot get relationships from that many people in your degree field. I guess that would be one positive thing from the 1862 experience would be
that you were swimming in a sea of people versus tribal college, you have got a total of 20 or 30 people within a degree program versus 500 or 1000.” Interviewee 3

Interviewee 18 appreciated having other Native students on the campus of her tribal college. She felt a sense of belonging and that her fellow students understood her perspective because of similar life experiences.

“What I liked most... was that I had got to be around people who were like me. The majority of us come from the same reservation. We all kind of know the background and kind of know what everybody struggles with, we are the same. You just sort of feel comfortable there because it is just like being at home.” Interviewee 18

Student groups
Interviewees formed support systems on their campuses and through larger networks through their participation in student groups. The American Indian Science and Engineering Society (AISES), the SEEDS program through the Ecological Society of America, student government, and Native American student associations were examples of student groups multiple interviewees were part of during their academic journeys. Student groups were more often an important part of undergraduate experiences than graduate experiences, as academic and personal responsibilities changed.

Interviewee 2 benefitted from participating in AISES. He was able to meet other Native and indigenous people through his participation. The students shared experiences and opportunities, as well as developed friendships that contributed to his sense of belonging. Seeing other Native and indigenous people achieving their academic goals was inspiring to him.

“One thing that really helped me out was joining the AISES group, like traveling around and giving poster presentations. That really helped me a lot. And to go out there and see other natives doing it. And not only other natives but other indigenous people doing it and seeing their perspectives and talk with them. It really opened the doors for me to more of an international point of views to see natural resources. To see natural resource management from other indigenous perspectives, international is
what I am saying. I thought that was cool... The best parts for me... I would say joining AISES, joining student groups. Because when you get here you are so alone, you feel so alone, you do not know anybody. When you go to those student groups, you see other people [who] miss home as well or are struggling financially and then just sharing information with each other with what they are doing to make it. And just developing friendships, because you in a sense build your own family nucleus, your academic family. So I think that was the biggest thing. I would say student groups is probably one of the strongest one.” Interviewee 2

Similar to Interviewee 2, Interviewee 26 enjoyed the camaraderie of being in student groups, especially Native student groups where she was able to interact with students who had similar life experiences. However, she also described the importance of gaining professional development, internships, scholarships, and eventually a job because of being active in certain student groups.

“I think [being active in student groups] was critical and was absolutely necessary. Aside from the social networking and support that you get from [being involved in student groups] and being able to relate to people with similar backgrounds, I think that it is also an important professional networking opportunity. The connections that I have now from those groups are still with me today. It was very integral to my professional development whether it be getting an internship... or even afterwards when I was able to work at the Los Alamos Lab—that was definitely a result of that student group... scholarship-wise, that was integral.” Interviewee 26

Hardships
Interviewees experienced hardships related to interactions with people in academics starting in high school with their teachers and counselors into college with their professors who taught their classes, other college students, people within their departments or degree programs, and their academic advisors.

High school
Interviewees experienced hardships by staff in high school while preparing for college. The experiences they described included the lack of guidance by their counselors, being told because she was a mother she could
not go to college, nepotism about who got help preparing for college, and general prejudice in the school system.

Interviewee 10’s guidance counselor in high school was not consistent with his suggestions or feedback to her plans, which was not helpful for her. She and her parents ended up working together to identify the appropriate institution and financial aid opportunities.

“I think my high school guidance counselor had bipolar disorder, so he was not helpful at all. One minute I would tell him I wanted to apply to go to NYU and he told me, “You cannot do that, you are just going to be a number.” Then I would walk into his office the next week and he would ask what schools I was going to apply for so I would tell him NYU again and he would say, “I love New York City. That would be great for you.” It was really bad.” Interviewee 10

While in high school, Interviewee 14 became pregnant. After having her child, her high school counselor told her now that she was a mother, she would never go to college and should learn a skill instead. She felt shamed by the counselor’s statement and did not tell her father for a while. After learning about the incident, her father took her to college and helped her enroll, because he knew she was capable of earning a degree and did not follow the same line of thinking as her counselor.

“My oldest son I got pregnant with very young so I was a mom first. Then a counselor had said to me, “Now that you have a child…” because I was in my senior year of high school, “now that you have a child, you will never go to college. You will need to learn a skill. You can type pretty good so you might think about secretarial work.” I kept that to myself because it was very shaming. I did not care because everyone rushed to me, my grandma and my aunties to teach me how to be a mother, which was a fantastic process. I thought I was supposed to be a mom and that is the most sacred thing, the most important thing you will ever do in your life, so whatever. I mentioned it to my dad one time and he said, “What? No, now that you have a child you must go to college. You can go. We will sign you up right now.” My dad is a “right now” kind of a guy… We went over there and he showed me the process
so I took a class... I can do this. I did not know I could, that is what they had told me so I believed them because they have the credentials because they were the counselors.” Interviewee 14

Interviewees 28 and 30 attended the same high school. At first Interviewee 28 had felt like he had received good advice for college preparation from their counselors, but after earning his Master’s degree and learning how to successfully navigate higher education he felt the counselors had not really given him the full potential of support they could have. Interviewee 30 believed their high school counselors gave preferential treatment to students from certain families. The remaining students were left to figure out the process of getting into higher education on their own.

“I think for maybe kids in high school that had huge nepotism and their families or whatever, they were catered to, but unfortunately that is how my reservation’s high school was. If you were of a certain family then you were left out to struggle.” Interviewee 30

Just over half of the interviewees grew up on Indian reservations. Only three interviewees described experiencing either overt racism or less overt institutional racism. All three of those interviewees grew up off the reservation. Interviewee 15 experienced some racism in her school, because she was one of the few people of color. Similarly, Interviewee 30 experienced racism and was surprised to find it practiced by educated people.

“A lot of teachers I know now and in retrospect were kind of prejudice against me anyway. There were not a lot of brown people in my school either because I grew up in a non-tribal community.”

Interviewee 15

“I guess it was just a shock for me to find that universities where supposedly educated people were that you could still experience... racism.” Interviewee 30
Classroom professors
Interviewees experienced hardships with professors whose classes they were taking. For example, interviewees described having professors who exhibited racial insensitivity or professed misinformation about Native people in their classes.

Interviewee 18 took a Native American studies course from a non-Native professor who suggested Indian people should be more forgiving of white people because of their good intentions. This was frustrating to her, but she believed challenging the instructor was also a complex issue.

“I did not even know that there are white people who studied Native Americans as a topic. It was so odd to me for these people to be telling me what “our” culture is and what “our” history is because it is, written in a book or because that is what they were taught. If they were not doing that then the other side of that angle was then they were trying to justify to us why we should be a little bit more forgiving of white people because their intentions were so good. That was very frustrating to sit in a whole classroom filled with other non-natives and know that they were being told yes. Then if you challenge the instructor and they get this pompous attitude like they were the one with the Ph.D and you are just the student paying to be in the classroom so what they say goes and that is what they expect the answer to be when the test comes. I had a lot of issues with that.” Interviewee 18

Interviewee 5 attended a non-tribal institution where many faculty were foreigners and a language barrier existed, which increased the challenge of being able to understand the course content.

“Another thing that really got me was I had instructors [who] were not from the United States. When you are on the rez, you never hear anybody, well, you might but you rarely encounter somebody [who] is from Europe or from China or from India. And I had instructors like that, so there was a language barrier coming from such a geographically isolated place where people do not talk like that. That made it hard to be able to listen and decipher and then learn and then remember.” Interviewee 5

Interviewee 17 was negatively impacted by the size of the institution affecting his access to his professors.
“I really struggled there to catch up in a way... because of the sheer numbers of students the faculty cannot provide the same one-on-one as you would get in a small school like a community college. I think that would definitely be the biggest challenge I saw coming from where I did to where I am at now.”

Other interviewees described being targeted by faculty in class (I15) and having a professor intentionally intimidate them or treat them poorly (I11 and I24).

“I do not know what the motivation was behind this instructor but we would sit in his class as grad students and he would preach to us. We were supposed to participate, and everybody would just sit there and be quiet. For about two weeks, every single class, which was two times a week, he would call on me to answer questions; no one else was ever called on in his class. Every week he was like, “Sophia, what do you think?” I really felt like I was being challenged for my right to even be there. I would not be nervous, and I would just say whatever. I really felt like there was some sort of a personal attack going on there.” Interviewee 15

“I had one teacher there, one professor, who was terrible. He actually said to me and scared the crap out of me because he said, “You can’t make it through this program without me. If you’re going to try to do this, you really need me to advise you to be your mentor and to give you advice, because you’re just not going to make it through this without me.” I never really understood why he said that to me but it really frightened me, because I thought he was not a very good mentor, but it sort of scared me into thinking that maybe he knew something that no one else knew. I was naive enough to kind of believe him for awhile, but thank goodness Elizabeth was there because she really helped me get over the fear that he had placed in my mind. So it was very, very stressful but it was okay.” Interviewee 24

Interviewee 1 had an instructor use research findings to place the burden of student learning solely on the students and not his own teaching quality. She viewed his statements about student learning as his refusal to take responsibility for his students’ learning. The course ended up being her worst class she had ever taken.
“I had a professor who in the first week of class recited a study that basically stated that no matter how good your instructor was it had no effect on the learning outcome of the students... that was probably one of the worst classes I have ever taken because he had no ownership in students’ learning.”

Interviewee 1

Other college students
Interviewees experienced hardships with other students on their campuses related to racial logos, previous Native students’ academic performance, racism, isolation, and cultural differences in communication styles.

Two interviewees were on campuses that were retiring their American Indian logos, which caused backlash against them and other Native students on campus. The harsh treatment caused them to consider quitting and some of their fellow Native students did leave college because of the hostility. However, both interviewees remained at their respective colleges and completed their degrees.

“When I was going through my undergraduate work... they were right on the tail-end of being played as [a Native American themed mascot] and they were changing over to [a non-racial mascot]. When I started school there I never imagined that being Indian would have such a profound impact on my educational experience, because people were so angry, they were so confrontational, and they were so mean. Not just as a woman, but they were mean to me because I was Indian, they would blame me for things like, ‘I cannot believe you changed the mascot. What does this mean? You did that.’ People spit on me when I would try to go to sporting events. It was just insane and absolutely crazy. That hostility probably lasted for a good two years of my time there. I considered leaving many times but whenever I would talk to people about the issues I felt better, I felt like I was making a difference. The hostility died down quite a bit, but there was always still that imagery around. There were people who refused to change that because there were people who would still wear their Redskins t-shirt or put up posters and flyers or things like that.” Interviewee 24
Two interviewees felt the repercussions of the failure of previous Native students. When previous Native students failed, fewer opportunities became available for subsequent students based on the fear of their lack of success.

“I am Native American, there are resources available specifically to help me, but when I sought certain resources out, they were not available. I found out that it was... a glass ceiling thing. “They are only available for undergraduates; they are not available for graduate students, I am sorry.” Then it is like what is the point of all this encouragement if you are not going to follow through on support throughout the entire academic career. I found this true within my own tribal organization. I had tribal support through a natural resources scholarship through our forestry program. There was talk that it might be available for graduate students. I think because of the lack of success in graduate students they had supported in the past, they would go to graduate school, they did not finish their degree. They were not able to cycle them back into the program, because part of the acceptance of this degree is that you had to spend so many work hours working for the tribe within natural resources, basically paying off your degree or the grant. I guess it was a modified scholarship or fellowship. I kind of felt—I do not want to say I felt betrayed but I definitely felt let down at the fact that everybody was like, yeah, the support to get an education.” Interviewee 20

Two interviewees experienced racism by fellow students on campus.

“I had a Philippine roommate who was very dark skinned when I lived in the dorms. I do not remember the context, but we had a verbal exchange with some other students who, for whatever reason, assumed that we were Mexicans, and they made some derogatory comments to us. I do not remember what the exchange was that prompted a bit of confrontation in the hallway.” Interviewee 19

Two interviewees had negative experiences with other Native students that left them feeling isolated or ostracized.
“I had friends and we would go to lunch, then all of a sudden they were all speaking [their tribal language]. I just started looking at the whole table and was like seriously? They said, “Do not worry we are not talking anything about you.” I said, “I do not think you are talking about me, but what I feel is that I am not part of the conversation, because I do not know what you are saying. So trust me, I am not feeling that you are laughing or you are glancing, you are just having your own thing, and I cannot participate, but I admire it.” It is hard to be an outsider sitting out and having lunch.” Interviewee 15

Some interviewees experienced tension because of the differences between the accepted communication style of the other students in their programs. In the sciences, it was deemed appropriate and desirable to speak aggressively to colleagues, which was contrary to their beliefs and caused some internal tension.

“Then when you got into the graduate level, I felt like quitting the first semester, because we had these graduate student seminars on Fridays and some of the other graduate students... it felt very competitive and they kind of talked over each other and argued with each other or contradicted each other and they were not very nice about it. I just thought, “I just do not belong here.” Interviewee 22

Department and degree program staff
Interviewees experienced hardships with staff in their departments or degree programs not providing support for them. The lack of support by their departments was for various reasons: Interviewee 5 felt she was not supported in her graduate program, because she was native, Interviewee 22 never felt fully supported by her department as a graduate student, Interviewee 24 was not supported to include tribal knowledge in her research or to move home to be with her family after completing her graduate coursework, Interviewee 27 had to reach out to people at the graduate school for support because they were not following his progress, and I30 did not have support from her college’s dean regarding a restraining order against a person on campus who had threatened to kill her and had assaulted her, which was a serious safety issue.

Interviewee 22 was able to earn her Bachelor’s and Master’s degree, but due in part to the lack of support from her department she was unable to complete her doctoral degree.
“Even through my graduate program, I never felt like I had 100% support from the faculty in the Wildlife Department. I felt like they just really—it was not a priority for them to make sure that they had qualified students in their program and got them successfully graduated from their program. I would say academically, I think the program is great but culturally and from a personal perspective, it kind of was not so great. It was pretty negative for me. I think that given the culture of the wildlife program there, I think it would be challenging for a lot of Native students to get through without a strong support system or else without pure determination on their own part.” Interviewee 22

Interviewee had several experiences while she was pursuing her degrees where she was physically assaulted on her campuses. She felt unsafe and did the things recommended to survivors of violence: she obtained a restraining order and she sought help from a local non-profit who work with women survivors of violence. When a perpetrator began working on her campus, she felt unsafe and sought help from her college’s dean. His inability to assist her or intervene on behalf of her physical and emotional safety negatively impacted her academic performance.

“I went to the Dean and asked him about that and he said there was nothing they could do. Apparently I did find out where he worked and he was in the sport or athletics. He was not even a student, he was maintenance or something. I wondered why is this person working some place where at least I kind of feel safe? It was bad, because so many things were going on for me: I was pregnant and me being triggered. It was just way too much at the time. Then right before finals in December 2009, mentally I could not keep it together. I even called the YWCA because it just was not right.” Interviewee 30

Similar to Interviewee 22, Interviewee 30 also had difficulty completing her degree and was one course short of meeting her degree requirements.

Academic advisors
Interviewees experienced hardships with their graduate advisors. Of the interviewees who experienced challenges with their advisors, only one interviewee did not complete her degree. The other interviewees were
able to work through their hardships and earn their graduate degrees. Interviewee 2’s relationship with his Master’s advisor deteriorated, but he was able to tough out those hard spots to complete his degree.

“In the end me and him did not get along so well, but we both toughed it out and were able to complete what I needed to do, I guess. But it is funny that you have to sacrifice and put up with people you do not like or [who] do not like you or you just do not get along. It teaches you perseverance.”

Interviewee 2

Interviewee 14 had a Master’s advisor who was hard on her from the beginning, selected her committee based on who he wanted to work with, did not understand her cultural expectations, and even took away her funding at one point. She continued to work with him, but was able to stand up for herself and complete her degree.

“My advisor is fantastic, but he has no children, he is a white male and he was an attorney. I did not know how a committee worked... So he chose my committee members for me. He chose people [who] he wanted to work with which was fine... but it was not until I had been in for about a year that I realized I did not know if I wanted to work with those people... I needed somebody to help me grow in my research. One of them was the chair of our department and that is not a good combination to have... It might be for some, but her first priority is to him and he wants to impress her. I had asked somebody else to be on my committee... That was hard and my advisor did not understand certain things about ceremony when we would have people pass away. I am the eldest in my family... so I have to do certain things... It really strained my relationship with him though. I think he felt as though I was not trying and the other stuff was more important. Well he had no children, he was a white man and there were so many things that he could not connect with... We had some intense, difficult conversations. One time he took away my funding in the middle of the semester... I made a loan and finished up the semester... I knew that the system supported him to weed me out and to get me out of there, because I was already counted in their numbers.” Interviewee 14
Interviewee 20 did not follow what he considered his advisors’ streamlined plan they had used with other students and ended up quitting seeking their help. When he began to encounter challenges with his research, his advisors were unable to help him, as were others they suggested he work with. He was able to gain the support and help from his girlfriend, which re-engaged him in the process and allowed him to complete his degree.

“Once I collected all of my data and began data processing and analysis, I felt abandoned by my advisors because whenever I approached them for assistance, I simply got an “I do not know” or kicked to somebody else’s office… Whomever I was sent to, they were doing their own project when I approached them, A) they got ignored or B) they were in the same boat as myself… I did not really engage or speak with anybody else. I did not have any faculty [who] I would approach.” Interviewee 20

Interviewee 22 was experiencing traumatic family issues and was not getting the support and understanding she felt she needed from her advisor. Her advisor ended up dropping her as a student, which in combination with the lack of support from her department contributed to her not completing her Ph.D.

“I have managed to finish my Master’s, but I was not able to finish my Ph.D… The other roadblock was my major professor not understanding and not being supportive at a time when I was really seriously stressed from very traumatic family issues that were going on at the time. I was not able to get much support once he dropped me… there is still a part of me that it kind of hurts to know that to one professor we were just a commodity to get grant money. When push came to shove and things got serious there just was not enough support to help me get through and finish the Ph.D.” Interviewee 22

Interviewee 27 had an advisor who was not on campus, gave him flawed data to work with, and did not assist with research funding, which left him feeling used. As mentioned earlier in the section about family, his wife intervened and advocated on his behalf, which was significant to his completion of his Master’s degree.
“My mentor lives in [Canada]. Last year, I Skyped with him a lot. He was so insistent, because he has spent all this time collecting bad data that they gave me, which I did not get until October of last year. I spent my whole Christmas break crunching numbers, to find out that that data is useless... There is just a lot of flaws in there... What they ended up doing was suspending my permit and putting it under his remote sensing permit for a fly-over that they were doing this summer. They are going to use my data for ground validation for that fly over, which is great. But then it became his project again. We busted our butts and got 72 sites and so much data, all over that front range. He did not pay me. I got paid through Hopa... He wanted all of those plots. I had done a strategic planning where I would get a representative spatially balanced sample with doing less plots... I have not spoken with him in almost three weeks. He was down in Yellowstone and did not spend any time... he came out to the field one day for a couple of hours. He was down there for a week and a half... He wanted me to drive down there on my dime to collect that data... I feel like I’m being used, big time. Now I’m taking five research credits with him; I don’t need his guidance. I work my butt off but to have it now is just solid. It is going to be interesting to see where this goes. At one point, I thought he was genuine. I did not see, he has helped me. He has written recommendations and stuff. Maybe I am being too sensitive about it. I was really hurt when he was down there. He did not even invite me to dinner; he was supposed to be my friend and mentor. I guess that is the difference in culture.” Interviewee 27

Interviewee 29 experienced an attempt at exploitation by his advisor trying to take credit for his research to which he had not contributed. He was able to work with his communications staff at his institution of employment to prevent the misrepresentation in the media.

“I brought the funding in... I spent about three years there without any results. I finally broke through while he was on sabbatical, I broke through on the research. By the time he got back, I had generated most of my data. He really did not have much to do with the thesis or my dissertation. When I finished, I knew it was a big story, and he did not really want to help me, because I was fairly independent and I was not part of his machine since I had my own funding, plus I challenged him on some issues... I
finished up working there I had a pretty good thesis. He still did not believe it was good enough to get published in a big journal. He knew it was publishable... I wrote to Nature and they turned it down because of the quality of the writing. I rewrote it while I was a professor... So I wrote, without his help, he did not do anything hardly. Right at the last minute when the paper was coming out, he did a news release at [his] university that he had [made the breakthrough]. He basically tried to scoop me on my work. I was furious... My story overtook his release and it made it embarrassing for him, because I came right out and said, “I am the one who did this.” He was trying to claim my work, trying to claim the work of his student. He never really took part in it. That was a last straw with that guy... But in the end, everyone knew it was my work and I got credit for it.” Interviewee 29

Academic Community
Interviewees experienced hardships with people in their broader academic community. There were three different categories of hardships related to this group of people: communication, isolation, and violence or physical safety.

Communication with committee members was an issue of hardship for Interviewee 13.

“One of the biggest problems or barriers was communication with committee members or the process. My advisor did not allow me to show my dissertation to any of my committee members or talk to them. He was like, “Do not bother them.” Until I was at the final stage two weeks before and then they were like, “What is this? How come we have not seen it?” So that miscommunication was a big, big issue... I would have different committee members telling me different directions. They almost need to have a meeting together with themselves to figure out what direction to send you. They say, “Pick your committee,” then you pick your committee and you talk to them individually and they all have different directions. That is probably the biggest obstacle I had.” Interviewee 13

Female interviewees experienced a sense of isolation related to female faculty who were incapable of advocating for them, ineffective Native faculty role models, faculty who could not support their research,
being the only Native person in class who ended confronting misinformation about Native people, and being a non-traditional student. Interviewee 14 experienced a sense of betrayal by the white female faculty in her field who did not support her, but she became more accepting after realizing how they had to conform to the male-dominated system to be successful.

“I started realizing that there were different women [who] were in the sciences [who] were older… one of my mentors… said one time that… “I had to deform myself in order to get my Ph.D in botany. I had to leave all of the things that made me culturally who I was, left them all behind and I became a white man. Then I became a successful scientist.” She said, “You can help your students by letting them be who they are and bring what they should be bringing this new knowledge to this discussion.” She is not even respected in her department and her writing is not in any of the major science journals, they just do not have it. I think that is one of the things that I saw and at first I was very angry and felt very betrayed by these other women [who] were white women, but I felt they should have my back and they did not because they were being accepted and celebrated by their peers who were white males and usually older white males. That was really hard to see but then I went through that process and I realized just like [my mentor], I do not know who they would have been if they would have been allowed to be who they were as women in the sciences and what they could have added as that but they had to conform to this… I mean it is just a machine that is made for them, these white males. I got through that, and what I then understood is that my allies in the sciences could be either gender. What they had to be though is supportive of my work. It was not that I was not naïve, I just could not fathom that is what was happening and that it was such a system that was so white-male dominated and so western science, no if-ands-or-buts, this is all that it is. That these women had done that and when [my mentor] said that I applied that to all of them and I just felt this forgiveness like, ‘I get you. You are only where you are, because you did what you had to do to survive.’ It reminded me of our ancestors and what they had to do to survive for us to be here. I thought, “Okay, that is why you are here.”

Interviewee 14
Interviewee 18 had one Native faculty member on her campus who played the role of the token Indian, while not contributing to the Native community on campus. Interviewee 20 experienced a sense of isolation because of the lack of people on his campus who had a deep understanding of his research. Interviewee 26 was in classes where she was often the only Native person and would address misinformation, which created some internal conflict for her, because she did not want to be considered the spokesperson for all Native people or be romanticized by her peers or professors, which was something other interviewees also expressed.

“I think the troubling part though was the lack of Native presence in those programs, so it made it a little bit harder in the sense that first of all I did not want to be romanticized among my peers from my professors. I think that was hard, because I did not want to be seen as a novelty and it should not be a novelty at that point. Reconciling those differences were very difficult for me.” Interviewee 26

By the time Interviewee 29 was in his Ph.D program he was an older student with a family and had less time to be involved with student groups. The inability to participate in student groups as graduate students because of different responsibilities and time availability was expressed by a few other interviewees. Interviewee 29 and other interviewees also expressed a frustration with fellow Native students who embraced a pan-Indian identity rather than their own tribal cultural identity.

Interviewee 30 experienced a physical altercation with other Native people on campus and was cited after being reported by the healthcare providers on campus. She was also physically assaulted while a student and ended up being hospitalized. She was granted a restraining order against the perpetrator. When she encountered the individual on a different campus and reported him to her administrator and other individuals who could have advocated for her, she received no support.

“I later on down the road after I thought about it more and more and was learning about rights and what not, I looked at the police report and was disgusted and felt betrayed but by then I was already back at the [university] trying to figure out where I stood. I still felt humility inside. I felt as though I was to blame for that incidence. I felt undeserving, I guess, to be at the [university], but then there were
parts of me that I do deserve to be here. I am not a terrorist. So yeah, that still impacts my social life today on trusting other Native Americans even in those settings. It has definitely impacted that part of my social life trying to even be friends with another Native American... the person [who] had almost taken my life, had drug me all over my home, beat the crap out of me and had threaten to pretty much kill me... he actually ended up I guess working here [at my university].” Interviewee 30

Take home message
Interviewees described both positive and negative impacts on their academic journeys by people in education. A few interviewees felt supported and encouraged by K-12 teachers. However, there were more interviewees who felt a lack of support by their high school counselors. In general, college staff were supportive of interviewees. There were mixed levels of positive and negative experiences with faculty. Some faculty were unsupportive or perpetuated oppressive beliefs about Native people in their courses. Three advisors attempted to exploit their students. Two of the advisors’ exploitation was related to the students’ research and one advisor’s exploitation was using the Native identity of his student for acquiring funding. Other faculty members were generally supportive in their roles of instructors of courses and as advisors but also specifically regarding supporting Native students and Native issues. As part of the larger campus community, other students were also either supportive or caused hardships for interviewees. Being able to have a sense of community through student groups or with other Native students was one way experiences with other students was positive. Being racist was one way other students negatively impacted interviewees’ academic experiences. As institutions work to strengthen programs that support Native students, they should participate in more outreach to K-12 schools serving Native students, scrutinize the evaluations of faculty members for comments about racism, support Native student groups financially and provide them with space, create culturally safe spaces for their Native students, and be intentional about developing relationships with their Native students to encourage open and honest communication. Native people intending on pursuing degrees should visit with other Native students on campus to gauge the campus climate, identify Native faculty or other supportive faculty on campus or within their programs, and begin engaging with student support staff
who will be able to advise and help them effectively navigate the system. Tribal communities should review the effectiveness of their high school guidance counselors’ service to Native students.

Professionals
Professionals working in the field of natural resources were another category of people who were also impactful on the academic experiences of interviewees.

Interest in the field of natural resources
Professionals in the field influenced interviewees’ interest in the field of natural resources. Interviewees described being inspired by female scientists with their Ph.Ds, meeting a Native woman pursuing her degree, working alongside a wildlife biologist, informal visits with an NRCS technician, learning about traditional natural resource management, and having a crew boss suggest they pursue a degree.

Interviewee 19 participated in a summer program for high school students through his tribe where he was partnered with a wildlife biologist. This experience guided the trajectory of his academic pursuits.

“The tribes offered a summer program for high school kids called Career Tracks. I was placed with BIA wildlife biologists who worked for the tribes, there were two of them. At that time they comprised the entire wildlife program of the tribes. I was placed with them for a summer job. My recollection is the very first day we went out and listened to the signal of a radio-collared grizzly bear in an area [who] happened to be a few miles from where I grew up. I remember thinking, this is the coolest thing that a person could ever do for a job. You could actually get paid to do this. I think at the time I got the job I was not even aware that there was such a job as a wildlife biologist. After I spent that summer helping out and doing various jobs some of which were a little bit of busy work but others were very good, interesting jobs I was pretty well convinced that that is what I wanted to do.” Interviewee 19

Interviewee 21’s family were farmers and ranchers. She would go with her father to their Natural Resources Conservation Service. Her experiences with one of the technicians helped her make the connection between her interests and natural resources as a potential professional path.
“One of the technicians there would get maps out and showed me some of the things that he did. We did some spring developments and different things to the office. That is what got me interested in working. I liked that environment; I was connected to agriculture, I had a for-sure income, so that is what made me go in that direction. It was something I knew. It was familiar to me and it was enjoyable. You got to be outside and do the things I liked to do. So, anyways, yeah just being around it is what sucked me in.” Interviewee 21

Interviewee 11 described the inspiration she felt from her opportunity to work with smart, educated women in the sciences.

“I think for me, what it was was working with a particular researcher at the USDA. I guess to me it is this team of women in sciences. It is so impressive to me. I was like, I want to be under [her], I want to learn a lot from her. She is really smart. I did. I learned a lot from her. She was more of a mentor to me plus a supervisor. She even became my friend. That is what influenced me to get into natural resources; just knowing other women [who] are doing something like that. They have a doctorate in pursuing what they love, even in ecology. There is a lot of women who talked about when ecology first started that they were the pioneers and how they were treated as women in ecology. I look up to women like that. They are my inspiration.” Interviewee 11

Interviewee 24 described a specific incident of being exposed to traditional natural resource management and how that helped to point her in the direction of work she pursued. When she first entered college, she did not have much guidance or direction. Her participation in a conference as an undergraduate first exposed her to traditional natural resource management. The realization such a field of study existed gave her academic pursuits a clear direction.

“Then later on I had the opportunity as an undergraduate student to go to a conference and there was the first time that I ever really started thinking about traditional natural resources management was very early as an undergrad, they wanted me to experience. There was an Indian guy there from
California and he was talking about how his people traditionally used fire to influence plant growth for certain plants. I was floored and was like, “Oh my gosh, that is pure genius. My people are geniuses. We know everything.” That is really when I started thinking that is what I want to do. I want to find out how my people have been doing things for eons and I want to see how that fits in to our current lifestyle… That was a real turning point for me. I was really young, I think I was 18 or something, but it was very important.” Interviewee 24

Choice of Institution
Professionals in the field of natural resources also had an influence on two interviewees’ choices of institutions.

Interviewee 15 had colleagues suggest she should earn her degree from a university instead of the tribal college she was attending at the time. “... where other people were telling me to go and get a degree from a university if you are going to keep going in this field.” Interviewee 15

Interviewee 29’s choice of institution was also influenced by a colleague in the field. Since his colleague was able to graduate from that institution, he figured he could also graduate from there.

“We had a fisheries program that started in the mid-80s and I worked as a fisheries technician while I went to school. I would say it had a big effect on my career course with being exposed to fisheries, biology. People [who] were there ahead of me helped guide that process particularly one person who was a tribal member and about 10 years older than me. He finished a Bachelor’s degree at [a neighboring state university] in Fisheries. So I decided to go there. After all, if he could do it I knew I could do it.” Interviewee 29

Academic Journey
Professionals in the field of natural resources also inspired, motivated, and supported interviewees on their academic journeys.
Interviewee 1 described feeling excited and motivated by the shifts in perspectives regarding resource management she observed as tribes set their own management agendas.

“I think it is exciting, because I think that I have had enough positive interaction with people who are really getting excited about shifting perspectives and diversifying perspectives in resource management. While I still think it is the sort of situation where people do not know what to do with it, they find this whole idea of sovereignty mixed with unique approaches that a lot of tribes implement to deal with whatever it is they want to do, to be really exciting because Forest Service, you always hear about the red tape that impedes a lot of really effective management practices. I really like it when people say, especially non-Native people say, “Yeah, tribes have it going on because they can set their agenda.” While they do have to follow NEPA and other federal mandates—I mean—they are really in awe and I think somewhat envious. Maybe envious might be kind of strong, of what tribes have the capability to do. I think it is awesome. I really think it is exciting.” Interviewee 1

Interviewee 14 benefited from her network of professionals at different agencies who shared advice with her regarding her research.

“I had so many contacts with NASA, NSF, and I had just got together their Spatial Science Center, so I would ask them what they thought about things and they would share things with me. USGS, I had a lot of contacts there and I am very fortunate that way.” Interviewee 14

Hardships
One interviewee experienced hardships with professionals in the field of natural resources. While working for his tribal fisheries program, Interviewee 29 saw his mentor pushed out by a racist manager. When I29 became a student and was still working with his tribal fisheries program, the manager pulled his funding, which forced him to work while conducting his research.

“I worked in our fisheries program and I had a mentor... He was key in rallying a lot of the younger people to get into fisheries. He himself was repressed by our fisheries manager himself. He eventually
left; he kind of got pushed out. So this jackass is still working our fisheries program, but I think he is ready to retire. That has been part of the thing has been having someone who is a racist leading our programs. That kind of made me push harder too. The way he provided a service because it was like I did not want to let this jackass keep us down. In a way, I just used that racism to fuel my desire to overcome it.” Interviewee 29

After he completed his degrees, the manager offered to hire him, but without any benefits or pay increases. As a professor, I29 also encountered racist colleagues and had learned how to deal with racism.

“The lesson is: You better have a strong foundation, you better be out of the hands of people [who] can hurt you, and do not rely on people or subject yourself to it. You have to be able to get past all of that and then you can make a difference. I cannot really say anything until I have tenure. If I do, there is a chance that I could get voted out by a bunch of racists. You have to sit tight and get through. Once you get that then you can put the hammer down on all those assholes. Because you are more safe. You have to have an awareness of where you are in the system and how much change you can apply.”

Interviewee 29

Take home message
Professionals in the field of natural resource management can serve as role models to inspire Native people to pursue degrees in natural resources. Professionals can also influence where Native people choose to attend. Professionals can serve as inspiration and provide mentorship for Native students. Some professionals can also have negative impacts on Native peoples’ academic journeys through their racism. Institutions should foster their relationships with agencies and professionals in the field of natural resources. There are opportunities through agencies’ outreach to inspire Native people to pursue degrees in the field. There are also opportunities for professionals to have supportive roles in Native students’ academic journeys.

Community
Friends, fellow tribal members, and community members influenced interviewees’ interest in the field of natural resources, as well as their choice of institutions. They also impacted interviewees’ academic journeys.
Interest in the field of natural resources
Interviewees had people from their communities influence their interest in the field of natural resources, which lead to their pursuit of degrees in the field.

Interviewee 12 had a friend who began pursuing a degree in the field of natural resources before him. When he understood his friend’s career path, he realized it was also a good fit for him.

“I think my best friend kind of cued into the pathway a little before me. When I heard about the types of classes he was taking and the types of jobs that the program could lead to it just kind of clicked for me that it would be a good fit. But it was not something that I knew before that... I do not think I really knew that you could get a job working in the woods or working on lakes or oceans doing... science professionally. It just was not on my radar, so when my good friend decided he was going to transfer to the university in our state and study natural resources, I kind of quickly followed suit and have been on that path ever since.” Interviewee 12

Interviewee 18 saw a need to get other children to see science as an option for themselves and was motivated to continue her academic pursuits.

“So I finished at [the university where I earned by Bachelor’s degree] doing my fisheries and wildlife biology coursework, but by the end of that coursework, I started seeing more of a need for, not necessarily for me to go out and be a scientist but for me to sort of go back and get other young kids to sort of see science as an option for themselves.” Interviewee 18

Choice of Institution
Various people like friends or acquaintances in the interviewees’ communities were also influential on their choices of institutions. Interviewees described the importance of knowing people at that institution, feeling connected to their tribal community, having a boyfriend or friends there, and just meeting the right people who helped make things happen for them, which addresses the concept of belonging interviewees described.

“I knew a lot of people there.” Interviewee 5
“I would say it was a lot of serendipity of knowing the right people at the right time... In summary to answer the question there are key people [who] were mentors in my path [who] had they not given me the opportunities for open doors in the way that they did, I would not be where I am today.”

Interviewee 7

“I actually came here for a boyfriend... I was here, I was at [my tribal college] and I was three years in and he was going to school in [the nearby state university]. We were dating and commuting and [he] was like, “Why do not you just come to the [university]? They have your degree.”... So it was like, “Okay, my boyfriend lives there and maybe It is actually a good idea, educationally”.” Interviewee 15

“My friends were going there so I decided to go there.” Interviewee 16

An acquaintance was the person who influenced Interviewee 24’s choice of institution for her Master’s degree.

“Then one day it was actually an Indian lady from [a reservation in the plains], she was saying to me, “You really need to stop getting all of these Bachelor’s degrees and go get a Master’s degree.” She had gone to [an ivy league school] and I was kind of like, “Oh, okay.” Then I kind of just fell into that.”

Interviewee 24

Academic Journey
People from interviewees’ broader communities also positively impacted their academic journeys through their support, serving as motivators, and their expectations. People who worked in for tribal governments, like their tribal education departments, were also supportive of their journeys through assistance with financial aid or navigating tribal systems. People within interviewees’ tribal communities also positively contributed to their academic journeys through creating a sense of responsibility to succeed and give back, making interviewees feel comfortable and accepted, and providing support and help.

Interviewee 10’s tribal education director was helpful in providing some financial aid.
“My tribe did have an education director and we met with her when it was my senior high of school when I was just finishing up. She talked with me about what the tribe could offer, because they do offer scholarships for tribal members, so I was able to get some financial aid through my tribe through her.”

Interviewee 10

Interviewee 19 was awarded an educational cooperative agreement with his tribe, which in addition to funding, added to his motivation to complete his degree.

“I realized that school was about more than just me, that there were other people [who] were paying attention, and I now had this contract with the tribal chairman’s signature on it. Other people were investing in me and offering me something in exchange for some reasonable academic performance. I think as much as anything else I was beginning to finally be a little more mature and the wildlife tech job that I had helped me focus a little more on the importance of school. It motivated me, I think, to finish.” Interviewee 19

Hardships
Interviewees experienced hardships related to people in their communities.

After transferring from her tribal college on her reservation to a non-tribal institution, Interviewee 5 rarely encountered other Native people in her new community, which was a big change for her and her son.

“It was weird going from my community back on the reservation where there is like 3,000 people to this large city out west where there is like three million people and only being able to see my family at Christmas. I had my son and my younger sister with me at the time. They were having a hard time with it just because there were no Indians. We would see Indians and he would be like, “Oh my God! That is amazing I saw an Indian today.”” Interviewee 5

After she returned to her home reservation, Interviewee 8 experienced being treated differently by fellow tribal members, because she had grown up off the reservation, as well as experienced racism from non-Native people in her community.
“I was frequently told, “You were not raised here. You did not grow up here. You do not know anything about being here,” from my tribal people. Then from the nontribal people, it was just because I am brown, just because I am tan. I would go in the stores and they would follow me, and I would go to look through the clothes and they would say, “Can I help you?” And it would not be out of helpfulness, it would be like five or six people in a row coming up, “Can I help you? Can I help you?” They were not smiling and looking at me they were looking at what am I holding in my hand, do I have something under my jacket. Then I go to pay for something and then I would be standing there. I am glad because at the time I was in my 50s. I was 52 when I came back. I am standing around looking at the money in my hand thinking, “How much money do I have here?” They would take the money right out of my hand without letting me put it down like I did not know how to count. It was just incredible. I had never been treated like such an idiot before in my life.” Interviewee 8

Although her tribal education department had provided some financial aid, Interviewee 10 experienced having the director pushing her to attend their tribal college, which was not what she wanted and resulted in her no longer considering her tribal college as a possibility for her.

“She was really pushing the local... community college on me. I do not know if they were trying to recruit tribal members to go there, but it was not where I wanted to go and she was sort of pushy about it so I ended up not really using her as much of resource.” Interviewee 10

Two interviewees experienced losing people while pursuing their degrees. Interviewee 19 had a few friends pass away, which he considered the biggest hardship he experienced as a student. Interviewee 29 had many of his tribal elders pass away.

“I can remember losing a couple of friends during that time. They were young people [who] necessarily did not have a traumatic effect on my education but were just really unpleasant things that I had to carry on and keep going to classes and so forth. I remember having to explain to at least one professor that I was going to be gone. There was not any that I can remember, really eyebrow raising or
questioning of me but it was really negative in terms of just some really bad stuff that I had to go through while I was a student... In particular, my one friend, we were getting ready to do a play production. I mean we were literally getting ready to go on stage to do the performance that night and I got the word that, I knew that my friend had been in an accident, that he was in a coma and just before we went on stage somebody came and told me that he had died. I had to get up on stage literally moments later and open the play and you just do it. I do not know how I did it but I did it.”

Interviewee 19

Take home message
Community people positively impacted interviewees’ academic journeys by serving as inspirations, motivators, and support people for them. There were also some experiences with community members that had negative impacts, most of which were related to interviewees’ Indian identity. Tribes and people in tribal communities can provide positive support for Native students in ways institutions are not necessarily capable of providing or that fit within their plans. Institutions should work on building or strengthening relationships with tribal communities. Native people intending on pursuing degrees in the field of natural resources should look within their own communities for friends or other people who can be supportive of their academic journeys. For example, there are opportunities for support directly from tribes through cooperative educational agreements and tribal higher education grants.

Missing
As interviewees described their academic journeys, it became apparent there were people missing from their experiences who could have positively impacted their journeys.

Interviewees described having to navigate the preparation process for college on their own. For example, Interviewee 28 had no support from his high school and no guidance from his parents when preparing to enter college.
“To some degree, well both of my parents were super supportive of me going here and getting a college education but in a lot of ways they both did not have time and did not know how to help me with a lot of that stuff. A lot of it I had to learn from myself.” Interviewee 28

Interviewees described an absence of diversity in their academic experiences such as a lack of people of color in their classes, a lack of people of color or specifically Native people in their degree programs, a lack of women in their degree programs, or a lack of diversity on their campuses.

Interviewee 6 moved from his home reservation to attend a non-tribal institution and was surprised to see no other Native students. He later transferred to his tribal college and completed his degree.

“I remember when I was 18, I walked into Chemistry 101. I was just floored. There were like 300 students there. I did not see any Indians at the time that I recall. Maybe a couple of black people but I just felt like everybody was looking at me. I felt that real sense of insecurity probably.” Interviewee 6

Interviewee 1 believed there was a need in academia for more Native Ph.Ds in the natural sciences, but the current model in academia is not attractive to potential Native faculty.

“The complicating factor is there just are not a lot of Native Ph.Ds [who] have an interest in entering academia the way it exists now: what the requirements are, what is considered sort of meritorious... There needs to be more Native Ph.Ds in the natural sciences. That is the most significant limiting factor, but the philosophy is very westernized in just terms of the approach what you expect faculty to do and how you expect them to perform.” Interviewee 1

Several interviewees discussed being either the only person of color/Native person or being the only woman of color in their courses and/or degree programs.

“Now in most of my upper-level courses I was the only woman and I was the only person of color. It was okay, I had an okay experience and of course it is going to be different when you go out into the workforce.” Interviewee 14
“Because that is the two things that go hand-and-hand for me; it is being a female and being a Native American. That is two, in some aspects, marks against me because I have to try even harder. But I also think that it is two steps up because I walk in as an Indian woman, a brown-skinned woman, walks in here [who] is a scientist and knows my stuff, and some people admire that I think.” Interviewee 15

“Being a woman in this field and being an indigenous woman in this field colors everything that I do... When I started college, I never realized how much being an indigenous woman would impact the way that I thought about science. It just always did but it colors everything that I do. I never realized how offended certain people would get by that.” Interviewee 24

Interviewees experienced the lack of a support person with their research or academic pursuits, which created feelings of abandonment and isolation for some interviewees.

“I think that it is a struggle. Especially with the program for Native graduate students finishing up their dissertations and theses, you see the struggle that Native students have with access to faculty who understand their research and are fully supportive. I see that as an issue most places. I think there (are) institutions that have greater number of Native students than at the western university that are a bit more successful in meeting the needs of Native students, but not in the natural resources. They might have somebody in Native American or American Indian studies department, in some other department that has knowledge, but there are so few Native faculty that I think it is common to most mainstream universities.” Interviewee 1

Interviewees described an absence of other people who could advocate for them or were part of a support system.

“I found it challenging to bring up, for example, if I was in a class where I was the “only” Native person and somebody was saying something or the instructor was saying something that I felt was culturally offensive or that another perspective had to be brought in, it was kind of scary to raise your hand and
let your voice be heard. I would almost get anxiety or a panic attack, because I wanted to say something but then I did not want to be the person to raise my hand and stand out.” Interviewee 22

“The worst part in the academic experience... I was here during the most brutal time of the logo issue... That logo issue really taught me a lot but it also hurt a lot. Not necessarily me directly, it was watching your friends be hurt and not be able to do anything about it and not be able to find any justice for them and not make them feel any better. Then watch them walk away and never come back because they did not want to deal with it anymore. Those things were probably the worst for me.” Interviewee 18

Take home message
Interviewees were negatively impacted by the absence of other people of color and women in their courses and departments. Interviewees could have benefitted from having a community of other Native students or other women to support them. Interviewees also faced some negative experiences alone without anyone to support or advocate for them. Institutions should scrutinize their forms of evaluation for faculty. Institutions should have targeted hires of Native faculty. Institutions should have staff or faculty who can and will advocate on behalf of Native students.

Closing remarks
People can greatly impact the experiences of American Indians pursuing degrees in the field of natural resources. Within this analysis there were stories of people who inspired, motivated, supported, and advocated for interviewees during all stages of their academic experiences. Those people and stories need to be celebrated. There were also stories within this analysis of exploitation, racism, and abandonment by people, which left some interviewees feeling angry, isolated, and frustrated. Those people and stories need to be brought to light and also addressed, so that future Native students do not have the same experiences.

People who care about tribal natural resources and Native people pursuing degrees in that field can be proactive about making changes within their own communities. For example, a couple of the needs are an increase of Native staff, faculty, and students; as well as a supportive environment for diverse perspectives and knowledge, especially Native perspectives and knowledge.
Tribal Culture and Indian Identity

Tribal culture shapes the way tribal people view, interact with, and relate to the natural world. For many interviewees their tribal culture was where their journey to pursuing a degree in the field of natural resources began. Interviewees’ tribal culture impacted interviewees’ academic experiences as they chose to enter the field of natural resources and pursued degrees in higher education.

The majority of institutions of higher education in the United States are led and instructed by non-Indians. The influences of tribal culture on the experiences of American Indian students may not be easily recognizable or even a consideration by non-Indian people. Examining the influences of tribal culture on interviewees’ academic journeys is informative for institutions of higher education; agencies responsible for managing natural resources; tribal communities; and potential Native students. By understanding how tribal culture influences individuals’ choices, how it has strengthened individuals’ resilience and persistence, and how it has also created some tension for students can help institutions better serve American Indian students, as well as help American Indian students have better academic experiences.

Interviewees’ stories provide specific examples of how tribal culture influenced them to choose the field of natural resources and their institutions. Their stories also provide examples of how tribal culture impacted their experiences in the classroom, their research, and other dimensions of their academic journeys. It is my intention that this analysis will provide some new insight to the experiences of American Indians in higher education for those people who do not share the same frame of reference, as well as identify the ways tribal culture strengthens Native students as they journey through higher education.

This nomethetic analysis describes the ways tribal culture influenced and impacted interviewees’ academic journeys. Tribal culture was the foundation for interviewees’ early experiences with the natural world and shaped their interests in the field of natural resources. Tribal culture in this analysis includes, but is not limited to subsistence and ceremonial activities: tribal languages; values and beliefs like family, connections to land and place, and relationships; tribal knowledge; and issues related to tribal resource management like tribal sovereignty and jurisdiction.
Influences on interests
Families and tribes provided interviewees with opportunities to participate in their cultural practices and taught them about their cultural beliefs, which were some of the early experiences that connected them to the natural world. These early experiences often were the first seeds of interest for them that spoke to their hearts and eventually led to their pursuit of degrees in the field of natural resources.

Interviewee 24’s tribe was so closely tied to their river that their name translates to “River People” or “People of the River”. As a young girl, she learned about industrial pollution of the river on her reservation that was being discussed by her tribe and the value they placed on their identity as “people of the river”. This early influence was one of the early influences for her interest in natural resources.

“That became an issue on my [reservation] when I was growing up. There are a number of factories along the waterways. We’re actually considered “river people” and that is what our… name means or “people of the river.” The rivers were getting so polluted and I remember hearing the elders in a meeting when I was little saying, “How can we be people of the river without the river?” Interviewee 24

Interviewee 9 described the importance of traditional foods and regalia to her people as influencing her choice to go into the field of natural resources. By protecting and conserving the natural resources her tribe depended on for food and regalia, she was ensuring the possibility those aspects of her culture would also be preserved.

“When I was younger, a lot of it was because [my] people fish for salmon a lot. That is what [my] people do. Mostly salmon. Knowing that and being of a part of one when I was really little, connected me to natural resources right away. In that way and other foods as well, lots of foods… that come from nature. So I would say that was a big influence for sure, on my decision to go into natural resources a lot for it. For that first traditional foods and also for regalia.” Interviewee 9
Interviewee 20 grew up participating in his tribal ceremonies, which taught him an appreciation for the connection between water and life. Those practices taught him the reverence his tribal beliefs place on water, which resonated with him and lead him to pursue environmental science and hydrology degrees.

“Recognizing that there is an exchange and a trade that occurs between the earth, plants, animals and us. That was something that was instilled in me very young because of going to feasts and seeing the first thing that is set before you feast is water. First and the last thing at every meal that you participate in is water. Water binds us ALL to the earth. Knowing that at a very young age, that is what set me on the path that I now view as natural resources or environmental science. In cultural traditions, knowing that we have reverence for water above all other nourishment. That is what resonated with me. I very much know that that influenced my want to participate in hydrology and in environmental science as well.” Interviewee 20

As a young child, Interviewee 3 had an intense experience that helped her to become aware of her deep respect for Mother Earth and desire to protect her that eventually led her to pursue her degree in the field of natural resources.

“When I was a little kid there was a leaser next to us that consistently overgrazed and would have prairie dogs all the way across his pasture and it was right across the fence from us. My dad would get really upset because these prairie dog towns would spread and spread and spread and they would spread into our leases. But I guess I never, as a kid, I looked at it as a commodity or anything because it was beyond me to understand those things. But I actually started crying one day when I was my son’s age, probably six or seven years old. We were rounding up cows and I looked over at that piece of land and I just was saddened and I started praying for the land. I started thinking who could do that? That is why, that is what has influenced me. It still upsets me. So, it is kind of weird. It was not any one person. It was Mother Earth herself [who] came and told me... But I never really thought about it. Maybe that is why I am emotional. You asked me that question I have never had anyone ask me: why or who. And it
Interviewee 3

Interviewee 25 grew up spending a lot of time in the outdoors and in the woods with his family. He described a curiosity of how his tribe used their natural resources that was one of influences in his interest in the field.

“The curiosity of our culture of what we use from the woods and the natural resources sparked my interest.”

Interviewee 25

Interviewee 28 described how his father took him out in the natural world and would get him thinking about his own connection to those places. His father was also an environmental activist all of Interviewee 28’s life. His father influenced his interest in the field of natural resources by his encouragement and teaching him through engaging him in the natural world and by his examples of activism on behalf of the environment.

“I owe a lot of my interest in natural resource management, natural resources and environmentalism in general to my dad for sure because he is—not only was he instrumental in getting me outside and instigating me to think deeply about my connection to a lot of places but he’s in a lot of ways, a political activist, a Native American activist and his story is super interesting.” Interviewee 28

What can be learned?

Interviewees who were raised in families [who] actively participated in their cultural activities and taught them about their connections to the earth described how their understandings of their tribal cultures’ connections to the natural world and its resources influenced their interests with natural resources. For example, the translation of one tribe’s name evidenced their close ties to the river. Other interviewees described how their traditional foods, regalia, and beliefs were intertwined with their access to natural resources. Another interviewee described an experience she had as a young child where Mother Earth spoke to her and set her on her path to protect and advocate for natural resources. Other interviewees described going out to the woods and other places with their families that began their relationships with those places and started them thinking...
deeply about those connections. Their foods, their identities, and their ceremonies were directly connected to resources in the natural world. The participation in their tribal culture instilled a respect for those resources and an understanding of how their culture and the resources were connected to each other.

**From interests to intentions**

Interviewees described a cultural connection to the natural world and its resources. Their connections and relationships with the natural world gave interviewees a sense of responsibility to conserve and protect their natural resources. As those initial seeds of interest began to mature, interviewees expressed a desire to preserve those natural resources through pursuing a formal education, which in turn strengthened their people. By sustaining the resources, they were sustaining their people and their culture.

Interviewee 5’s experiences using the land and resources for nutritional and cultural subsistence instilled a desire to keep maintain high environmental quality for her people and lead to her pursuit of her field of education. As she saw it, if Indian people lived in a healthier environment that meant they would be healthier Indian people.

> “Indians and the land are so interrelated and tied together that I do not think you can pull them apart...Indians are so much more of a subsistence people. And it is not just subsistence for the dietary nutritional stuff. There is this whole other cultural sustenance realm that directly links back to my ability to be a healthy, functioning person that because of all that, you cannot separate Indians from natural resources. It only made sense to go to school for that. Because if the air is better, the water is better, people can use it more for when they are doing traditional practices. If they can do that, they are healthier. They feel better and then when they are healthier and feel better the entire community is healthier and feels better. That definitely made me want to go to school.” Interviewee 5

Interviewee 4 described how current resource management practices were not protecting the habitats of culturally significant plants. Resource managers were conducting inventories at times that might not be appropriate depending on the life history strategies of plants and might not even include the culturally
significant plant in their database. By making management decisions with a lack of adequate information or knowledge, resource managers were potentially allowing the destruction of plants’ habitat. She saw a need to have better informed management practices that included tribal knowledge and western scientific knowledge.

“I always got to go back to plants, because with everything that is going on, it is being taken away. Our natural resources are actually being taken away. Even though it is not out there in a book, people still use those as medicines. Now you just do not know what is going to happen with it because you need that management in there to preserve it... They have different places, culturally relevant places. There is culturally relevant plants even though they are not listed on the database. There is... They go out and they do their little inventory... It depends on the time of the year... It depends on if they are annuals, perennials, bi-annuals, what if those seeds are in the seed bed and they just do not know. It is things like that, it is destruction.” Interviewee 4

Interviewee 26 described cultural teachings about humans’ relationship with the living world that had been passed onto her by one of her elders, which helped her develop an appreciation for the sacrifices of plants and animals for human survival. She believed that appreciation Native people have for the natural world needed to be restored in others. This belief helped guide her in her academic pursuits.

“From a very early age that value and respect for the animal and plant world and the things that the world provides for us and the gifts that are given to us as people; that was something that was clear to me at a very early age. One key thing that stands out to me that was explained to me by one of my elders was, “You have to understand that the animal world—the natural world took pity on us as humans and so they sacrificed themselves for us. They do not need us to live, we need them to live. What they give us is a gift.” That is the major premise of what was explained to me and I think that hit me from a very early age. That level of appreciation needs to be restored. I think that we as Native people have that but we need to clear the paths to make sure that others can follow that.” Interviewee 26
Interviewee 19 grew up with his father impressing upon him and his siblings the importance of land to Indian people. He saw pursuing a degree in natural resources as an opportunity to contribute to his tribe by managing the land and resources in a way the everyone could benefit.

“It also was an opportunity to contribute to the greater good of the tribes in terms of basically being raised in an atmosphere where it was instilled in us how important our land was and the resources that we had. It was important to do the best we could for those resources so that everyone could benefit one way or another; whether they use those resources or not.” Interviewee 19

Interviewee 11’s first academic experiences in higher education were when she was pursuing a secretarial certificate. Later in life she decided to return to college and pursue a different path. She observed the low number of Native students pursuing degrees in the sciences and saw a need for someone to learn how to take care of the environment. This realization was the impetus for her pursuing her Bachelor’s degree in environmental science. “I [have] seen a lot of Native American students going into business administration and hardly anybody was going into the sciences and [learning] how to take care of our environment and our ecology. That is why I went into environmental science.” Interviewee 11

What can be learned?
Interviewees described how the connections they had made to the natural world were important to them and the perpetuation of their tribal people. By choosing to enter the field of natural resources, they were making conscious choices to use their careers to positively impact their tribal resources and people.

Intentions in action
Interviewees’ tribal culture had a large part in setting them on their path to pursuing degrees in the field of natural resources. As interviewees prepared for their journeys into higher education, their tribal culture also influenced their choices of institutions.
The belief in Creator making a way for her was the way Interviewee 24 chose her institutions. This belief is a reflection of her faith in her spirituality and cultural teachings. She perceived the many opportunities in her life as Creator making a way, like her choices of institutions.

“They literally fell in my lap. People would just recommend them. I never felt like I wanted to pursue something. I always felt like, in one way this is negative because I am overly laid-back about life. In my family and in my culture it was always stressed that you do not try to force things. The Creator will definitely will make sure that you know where you are supposed to be at a particular time. It would really happen for me and my life really did happen like that. People would say, “There is this really cool scholarship opportunity at [the land grant university]. I know you are interested in science and teaching, you should check it out.” So I did and signed up. It really happened like that. It would just be people telling me to check into things and it would work out. Then there have been many opportunities that have not worked out for me that were things that I had wanted at the time. I really, really wanted to work with... There is an ethnobotanist who I love and respect named Diana Pepion and she is at [a different university]. I have always wanted to go work with her at [her university] but it just never worked out that way. There were a lot of opportunities that I wanted, and that I would look into, but they never presented themselves as opportunities in a way that I could take.” Interviewee 24

Other interviewees described choosing their institution because of its proximity to their home (familial or tribal), family, and tribal people. Being close to family or other Native people gave interviewees a support system and a place where they were able to see other students with similar experiences and backgrounds in their classes. Several interviewees chose to attend Tribal Colleges/Universities and expressed a feeling of comfort, being accepted, and liked how everything revolved around tribal people.

Interviewee 25 had funding which would have allowed him to attend the institution of his choice and he chose his tribal college because it was his preference to go to his tribe’s institution.
“My tribal college is part of our tribe. Our education agreement did not exactly say that I had to go to my tribal college, it was just a preference of mine to choose that.” Interviewee 25

Interviewee 5 described choosing her tribal college because she knew many of the people there and felt a sense of comfort because she knew they would understand her experiences and background. After completing her Bachelor’s degree there, she attended a large university in another state that had a smaller proportion of Native student, which had been challenging for her.

“I knew a lot of people there. My family was there. It made me feel comfortable there. I could go there and feel like I could do well at whatever it was I was going to try to do and know there was a support structure there. There were going to be other young women in the same position as I was with kids going to school, or other Indian people there, or just people sharing the same interests with you because they grew up the same way. Not feeling like I had to be a different person to go somewhere else.” Interviewee 5

Interviewee 7 described attending his local college because it was where he was living with his parents and the familiarity gave him a sense of safety for him to try out college. He went on to attend multiple institutions and earn multiple degrees once he gained confidence and focus.

“My local college because I was living in the community and I wanted to test the waters. I wanted to cut my teeth on a college that was close to home... I was still living with my parents at the time.” Interviewee 7

Interviewee 9 attended an institution close to the community where she graduated high school for her undergraduate degree. When she could not find a tribal college that offered graduate degrees in the sciences or an institution closer to her tribal home, she chose to pursue her graduate studies at an institution that had more Native students after feeling like that was one aspect of her undergraduate experience she had wanted but lacked.
“Then once I started looking for graduate school, one of the things I thought I had missed or wanted that I did not receive at [my undergraduate institution] was experience with other Native students... At first, I looked at tribal colleges, but quickly found that there are not very many that offer graduate degrees in the sciences, so tribal colleges were pretty much out for me. Then from there I just kind of looked at what would be closer to [my tribal] home... and had a lot of Native students and could provide a lot of financial support... That was my decision maker... was that fellowship and the fact that there are a lot of Native students here.” Interviewee 9

Interviewee 16 described choosing one of his institutions to be closer to his son and for a similar wish to be at an institution with more of a Native presence on its campus. “I knew that [the state university] had a strong Native American presence.” Interviewee 16

Interviewee 26 wanted to attend an institution that would have a strong support system in place for Native students. In addition to additional financial aid, this support system was one of the factors that led her to attend her state university. “I wanted to go to a place that had a strong Native-student support system which I thought the [state university] had.” Interviewee 26.

Having a fellow tribal member as a colleague at his tribal fisheries with his degree was what influenced Interviewee 29’s choice of one of his institutions. If his colleague was able to succeed there, then he knew he would also be able to succeed. After earning his Bachelor’s degree, he continued on and earned a Master’s degree and his Ph.D.

“During that time, I worked in our Tribal Fisheries Program. We had a fisheries program that started in the mid-80s and I worked as a fisheries technician while I went to school. I would say it had a big effect on my career course with being exposed to fisheries biology. People [who] were there ahead of me helped guide that process particularly one person who was a tribal member and about 10 years older than me. He finished a Bachelor’s degree at [the neighboring state university] in Fisheries. So I decided to go there. After all, if he could do it I knew I could do it.” Interviewee 29
What can be learned?

Tribal culture influenced interviewees’ choices of institutions through their belief in their cultural teachings, being closer to their homes and families, being at an institution with more Native students and a stronger Native presence, and knowing someone who had succeeded there. These influences can be attributed to their beliefs in their tribal culture and the importance of their sense of belonging to tribal communities. Some of the interviewees’ descriptions suggested a need to have a safe place as they gained confidence like places with more Native students, stronger support systems at the institution and in the community, and the knowledge others had been able to succeed there.

Early conflicts

The seeds of interest tribal culture had planted early in interviewees’ lives matured. Tribal culture influenced some interviewees’ choice in their institutions. Their tribal cultures continued to influence experiences when they entered college. Up to this point, the influences of tribal culture, but once they entered college some interviewees expressed experiencing culture shock.

Interviewee 21 grew up on her reservation where Indians were the majority and ended up attending college at a non-tribal institution where she was the minority. She described experiencing culture shock and racist jokes. Her brother had graduated from the same institution and was able to encourage her to stay. After overcoming her initial culture shock, she was able to get to know many people across her campus and grow a sense of community.

“It was a culture shock, major culture shock my first semester or two. It was the first time that I realized people looked at me differently. I am an Indian. I was not Indian, I was “an” Indian... That is when I first realized that... What got me through that was my brother. He went through it first and he said, “Stick it out, you will get used to it.” Once you become part of the campus, I did not feel that way anymore so much. It was not such a shock. I cannot even tell you what it was that made me feel that way; people telling Indian jokes and things like that. They knew I was sitting there. I think they wanted to see what I would do or say.” Interviewee 21
Interviewee 30 grew up on her reservation and attended several different institutions. Some of the institutions she attended were state universities where she was a minority, which was different than her experience growing up as part of the majority. She expressed experiencing some culture shock and appreciated having someone within her college who was Native and a staff member tasked with providing support services for Native students. She also attended tribal colleges where she felt supported and comfortable.

“That is always comforting coming from a place like a reservation where the majority is Native American. You are so used to being around Native Americans that once you go outside of your “Native America” and into somewhere that you are a minority, it is comforting to be introduced to someone who can mentor you through how college works because coming from a community like that, you are not used to... it is a different way of thinking and it is an adjustment... The [state university], there were several people and faculty [who] worked within the [university] [who] were helpful with that. What is nice within the natural resources department specifically is that there is a person [who] is Native American and is... there to help support that minority... When you go to Tribal Community Colleges, it is just there; it is very comforting and it is good to have that support there. You feel at home because that is where you came from, that is where you grew up. Then you go to a place where the majority is a different race, it is very different. I do not think people understand the culture shock that actually takes places within Native American communities or with people from that who go into a place where they were once majority and then become a minority; there is a lot of culture shock that takes place.”

Interviewee 30

What can be learned?
The interviewees who experienced culture shock were able to overcome those feelings because of the support of their family members of other Native people on their campus. Some suggestions for non-tribal institutions to help Native students adjust and feel comfortable as they enter their institutions is to actively recruit Native students and provide support services for them once they arrive, as well as have Native staff and faculty who can understand the lived experiences and perspectives of the Native students. The first interviewee also
described encountering racism from her fellow students on campus. Institutions should develop and implement policies and procedures to address racism on their campuses. There should be adequate information about such policies and procedures (e.g., harassment and discrimination policies) to make their campus community aware of the processes, feel empowered to report, and know racism will not be tolerated.

_Tribal cultural presence in support system_

The presence of tribal culture at their institutions had positive impacts on their academic experiences. Interviewees described the importance of the presence of and support by Native faculty. Supportive staff serving Native students, including Native staff, were also people who helped interviewees. Interviewees described how these various kinds of support helped them to not feel tokenized, learn more about their own culture, feel their tribal culture was represented on their campus, provided them mentorship, have a sense of community, and feel like they were at home.

Interviewee 15 attended her tribal college and appreciated being able to learn about her culture, as well as meeting people in the community. She felt comfortable and accepted. Since she had grown up off the reservation, her experiences at the tribal college helped strengthen her Indian identity.

“At [my tribal college], it was great because having grown up off the reservation, I started getting that culture. I started taking all the history, humanities classes that were Native American, I took [my tribal] language classes. I started meeting people in the community. Being at [my tribal college] was huge because I really created that tribal identity that I had lacked the whole entire time I had been alive at that point. That was good and it was a comfortable place to be and I really felt accepted by people.”

Interviewee 15

Interviewees valued their relationships with other Native students who became part of their support systems to interact with during their academic journeys for various reasons, such as being able to meet other natives on similar paths; being engaged in student groups specifically for Native students; being part of a Native
cohort; being exposed to a greater Indian Country; and being part of groups of Native students supporting each other along their journey.

Interviewee 10 described how meaningful it was to her to have a support system of other Native students who understood her lived experiences, feelings, and issues that she believed non-Native students could not understand. She also believed Native students had similar ways of thinking, which was different from non-Native students.

“I really think having the Sloan Scholar’s group and having other tribal members as my support system through school was incredibly important because I think that tribal students think about things differently and have different experiences than non-tribal students do. So I think that was really, really helpful for me to have other people [who] had the same kinds of thoughts, feeling and issues as I did so that was really great.” Interviewee 10

Interviewee 22 had the opportunity to mentor undergraduate Native students through her research. They shared similar beliefs and perspectives, which made their fieldwork easier. She felt a sense of responsibility for them and their progress. She saw her mentoring as part of a larger system of building a community of Native scientists.

“I think it actually made my job easier in the field to have all Native students, because we all shared a certain perspective; we all shared a certain amount of respect for the bison themselves and how to conduct yourself outside. They also had some respect for me and looked up to me as a graduate student, because I had actually got that far, so I totally enjoyed the responsibility of taking these students, no matter how rough around the edges they were; trying to help them find what it is they could do and do well; and what they could take away from the study... Just the whole process from beginning to end, then finishing that project and then seeing them get that sense of accomplishment; and seeing the lights go on in their brains when they figure something out. When they actually figure out, ‘Oh my God, I am really smart. I could actually be a scientist.’... I am actually extremely grateful,
humbled and very honored that I actually had the opportunity to have mentored as many Native students as I did. I am still friends with many of them... Even if you reach just a few students through mentoring like that, that is just a few more [who] may not have been reached. It is like building blocks, each student that you can reach, mentor and get through or support is like a building block until you build that community of Native scientists and wildlife researchers.” Interviewee 22

What can be learned?
Interviewees described the importance of having a community of other Native people and students who could understand their experiences. They described how those relationships enriched their academic journeys. One interviewee also described her experiences of mentoring undergraduate Native students as one way she was helping to build a community of Native scientists and researchers. Similar to interviewee 29’s description of choosing his institution because a colleague had attended and been successful there, Interviewee 22 was serving as a role model to encourage other Native students they were capable of being successful also. A few suggestions for non-tribal institutions are to actively recruit Native students to build cohorts, support Native student groups through providing space and funding for their activities to help build a sense of community, and develop mentorship programs for Native students between graduate and undergraduate students.

Tribal culture in coursework
The presence of tribal culture in their coursework was important for interviewees. Examples of ways tribal culture was included in their coursework include: discussions about indigenous people and natural resources, tribal sovereignty, federal policies related to tribes, and TEK, as well as classes with tribal language, history, and culture; and classes that utilized the knowledge of tribal elders.

While pursuing her Bachelor’s degree in Native American Studies, Interviewee 1 described a course about indigenous people that helped her to understand the importance of the connection to land many indigenous cultures had, as well as how that relationship influenced how they managed their land. After that course, she began to reconnect with her family on the reservation and her own tribal culture. She also credited this course with starting her down the education and career path of natural resources.
“There was this series of events that we got to experience. One, it was sort of this acknowledgement or understanding of the importance of land and place to culture and identity. That is when I really became interested in, not just land conservation/sustainability, but how that connection really is what makes it difficult for... but why I think many indigenous cultures cannot just acclimate and switch to capitalistic ways of managing their lands. Whether it be individual or privatization of land ownership or non-sustainable kind of practices.” Interviewee 1

Interviewee 4 appreciated being able to learn about her own natural resources on her reservation because she could relate to them better than if she was learning about those resources on a different piece of land. She was able to understand the science behind what she was being taught regardless of where she was learning, but the added dimension of learning on her own tribe’s land contributed to enriching her ability to relate to the new knowledge through her culture.

“We learned about the reservation whereas if I went to another college we would be learning about a different piece of the land, but here you are able to learn about the reservation, the water, the land, the plants, and everything. That is what made it more, you could relate to it. Plus, culturally you relate to all those things. So, that is what made it better.” Interviewee 4

What can be learned?
Two interviewees described different ways their tribal culture was included in their coursework. One interviewee described the content of the curriculum as being significant. The other interviewee described the value of where the learning was taking place. Both interviewees expressed having their experiences enriched by the cultural components in their courses. A couple suggestions for non-tribal institutions to include tribal culture or perspectives in their courses in meaningful ways is within the readings or discourse, as well as conducting fieldwork on reservations or places with a history of use by tribal people.

Lack of Native presence or support
Interviewees described the absence of tribal culture or lack of support for tribal culture by their institutions, which caused them hardships while they pursued their degrees. Some examples are: limited knowledge about
tribal culture to help support their students’ research, expectations that conflicted with tribal beliefs, few or no
Native students especially women, rigid coursework, weak or inadequate support for Native students, and an
inability to effectively include tribal knowledge in classes.

Interviewee 2 had been raised with a fairly traditional upbringing by his grandparents. When he began
pursuing his Bachelor’s degree in the natural resources, he struggled with the conflicts between his tribal
culture and the expectations of higher education, and especially the sciences. His courses had expectations
that were in contradiction to his cultural beliefs. Sometimes he was able to meet with professors to discuss
those conflicts. He felt like to succeed in higher education he had to sacrifice his cultural beliefs. He also
sacrificed some of his tribal connections by leaving his home community and raising his children off their
reservation. He also sought advice from his grandmother, who told him he needed to do whatever he needed
to do to successfully complete his degree. Eventually, he was able to use his tribal value of self-sacrifice to help
him understand and accept the sacrifices he made to earn his degree.

“My biggest experience was sacrificing my cultural ethics or beliefs. That was the biggest thing. Later in
my academic career I found out that it is important you do have to sacrifice. Our whole culture is based
on self-sacrifice and looking at that way and that it is all self-sacrifice.” Interviewee 2

Interviewee 1 was a staff member who served Native students in her college where she was also pursuing her
Master’s degree. She observed her institution did not provide an accurate reflection of Native people (e.g.,
students, staff, or faculty) in comparison to the population in the region. This directly impacted Native
students who wanted to include cultural perspectives in their research and were unable to do so due to the
lack of people capable of providing them the support they needed.

“I would say there are limitations in that it is still not a reflection, the number of Native students, in
particular the faculty and staff is not a reflection of what the true population is. So, there is not really
that level of support that should exist to reflect what occurs in the state or even the Pacific
northwest...I know most of the Native graduate students who were doing a research project that has
some sort of a traditional aspect or it includes their cultural perspective, have struggled to have their ideas and approaches accepted. I do not think that it is done maliciously, it is just something new. I think with something new, especially to systems that have a certain process that is ingrained, like in higher education, like mainstream higher education, it is hard for people to understand how to not just accept but how to be helpful and I think that is the biggest impediment is that faculty want to be helpful but there is a limitation to their knowledge. So that student is sort of left in limbo. And I know that can be really difficult when you are trying to finish a thesis or dissertation.” Interviewee 1

Interviewee 22 felt her department did not actively recruit Native students, which was evidenced by the lack of any Native person graduating from their program with a Ph.D, the department head never traveling to any of the reservations in the state but instead recruiting on an international level, and the lack of support from faculty members for their Native students. Interviewee 22 described the need for Native students in the program as getting through from their own sheer determination. She had felt like quitting but earned her Bachelor’s and Master’s degree there. While pursuing her Ph.D, she was dropped by one of her advisors and was subsequently pushed out of the program. She went on to work for a federal agency in the field of natural resource management.

“The Wildlife Department at the [university in my state] does not have a whole lot of diversity... I felt like the academic leadership really did not make a serious effort at recruiting Native students. We have several reservations in our State and the head of the Wildlife Department... I cannot even think of a time he ever even went to a reservation or met with a Native group to try to recruit Native students into the program. The program never graduated a Native person with a Ph.D... He would travel around the world to go recruit students from Pakistan but they did not even have to do a thesis, they could come and take classes and maybe write a senior paper or something like that to get their Master’s; and they did not even have to do a real research project. They could come in from this foreign country, get all this support and go back. Where us, we have like a whole big under-represented group here in our State..., and even in our own country, we are like less than 1% are represented in the field of wildlife
biology and there is just no concerted effort that I ever observed of recruiting and supporting Native Americans in the Wildlife Department so really, those of us [who] went through and made it through, it was I think, because of our own sheer determination and some support from our own Native community or just even supporting each other as students... Then when you got into the graduate level, I felt like quitting...Then I thought that if I quit, what does that mean for other students [who] go on after me or if I quit then they win. So I hung in there. Even through my graduate program, I never felt like I had 100% support from the faculty in the Wildlife Department... I would say academically, I think the program is great but culturally and from a personal perspective, it kind of was not so great. It was pretty negative for me. I think that given the culture of the wildlife program there, I think it would be challenging for a lot of Native students to get through without a strong support system or else without pure determination on their own part.” Interviewee 22

Interviewee 26 also experienced tension because of the lack of other Native people in her program of study. She did not want to be romanticized by her professors.

“Again, I think the troubling part though was the lack of Native presence in those programs so it made it a little bit harder in the sense that first of all I did not want to be romanticized among my peers from my professors. I think that was hard because I did not want to be seen as a novelty and it should not be a novelty at that point. Reconciling those differences were very difficult for me.” Interviewee 26

Interviewee 24 was passionate about bringing forward the knowledge and experiences of Native people and saw ample opportunities for inclusion in her courses as a student. She often found herself being the only person bringing up those issues repeatedly. She sometimes felt like she ended up being the voice for all Native people even though that is not what she wanted. Interviewee 24 became a faculty member at a tribal college where by the very nature of being a tribal college, Native perspectives are included in all the coursework and degree programs.
“It got to be to the point where I felt like I was very, very annoying. I was the voice of my class and I felt like I had to be this lone voice constantly over and over of, “Why are we not talking about this?” Or I would say, “That is really interesting that you would say that but the Salish have been doing that forever.” I know that must have gotten really annoying for a lot of my professors and a couple of them ending up expressing that in a way. I did not want to be that person. Like when you are Native and you travel, you become this voice of every Indian who has ever lived and people want you to anyway. I did not want to do that and did not want to become that in my classes just because I was so passionate about this. Sometimes that is really the way that it was because there were constantly opportunities for that to be discussed and it just was not, it almost never was in those classes in particular.” Interviewee 24

Interviewee 28’s coursework had included a lot of field experiences, which gave him the idea of how those kinds of experiences could include tribal knowledge and perspectives. He suggested an ideal program would include a field component to visit other reservations and provide opportunities to learn about the natural resource issues and strategies of other tribes.

“That is one of the biggest issues I think being a Native student here, or just being a Native in general, is the lack of exposure to what is happening on different reservations and the wealth of diversity that there is in Indian country. Getting exposed to that I think would be huge. It would be really cool if you could have a national program that recruited and facilitated kids from all over the country and from different reservations all over the country. Being there but also had a field component to go visit different reservations; being able to experience what was going on at the different reservations; and being able to learn from tribal natural resource management. That would be an incredible experience if you could do that. If you could go talk to an Alaskan Native corporation about how they are managing like salmon fisheries vs. traveling to a Pueblo group and learning about how they manage water or whatever.” Interviewee 28
Native Worldview

Many interviewees described how their deep connections to the land and natural world inspired their interest in the field of natural resources and motivated them to earn their degrees. This might initially appear similar to non-Native students who describe feelings of connections to the land and natural world from their experiences outdoors, however, American Indian students’ respect for the natural world (e.g., Mother Earth) and connections to specific places are likely often fostered through their cultural values and tribal connections to those particular places that have existed for centuries or longer. Through their work and research, Native students have a desire to respect obligations to their land and communities (Gervais et al. in press).

One way non-tribal people can begin to gain an understanding of those cultural values and beliefs related to the natural world is through examining “natural resources” and the natural world through American Indian perspectives. Tribal languages hold the cultures’ worldview and philosophies, which is a starting point for non-tribal people and institutions. Two interviewees specifically addressed the language used in western science and how it differed from the language used in their tribal systems, which guides how those two systems interact with the natural world.

Interviewee 8 was describing how her culture informed her research and began her story with a statement about the language I had used in my initial question. She informed me natural resources was not the term she agreed with but that she had a clear understanding of what I meant.

“The term natural resources is not something I agree with but I understand the concept.”

After describing the connection between her tribal culture and her research, I followed up with her about her opening comment regarding the use of the term natural resources. She followed up with the utilitarian connotation of the word and how her Native philosophy focused more on the relationship with the natural world. When looking at the world in this way, in relationship with the natural world, it becomes more challenging to use the natural world in a disrespectful way.
“If you think about it, we are a natural resource as a human being to anything that is hungry. They call everything our relatives and our relations, I kind of like that term much more so because resources provide... because it is yours, natural resources provide, it goes out there for you and you could take and do with it as you please. So we go about that extracting, breaking down, taking, using, selling and making a profit for something that goes into a bank and you could buy a new car or something. When you call it your relative or your relation, you recognize that it can bring you air, in fact plants actually supply a lot of air. The rocks they support everything. The soil supports and grows everything. I mean we are all part of the same thing.”

Interviewee 24, who is a tribal member from a different tribe in a different region described a similar philosophy with regards to the difference between the western and tribal language used and how they reflect the relationships they each have with the natural world.

“If we are talking about western science and western culture, that is the message for everything is to separate yourself from it. Even though I think a lot of scientists would say this is not true, but from my experience, putting themselves above it. Like this is our resource to manage rather than it being, we are having a profoundly negative impact on this particular entity or the way my grandmother would talk about it, she would say, “On this nation or we are hurting this plant nation.” Once you look at them as relatives, you have a completely different way of thinking about them and it becomes a lot more difficult to defrag them rather than to say we can just drill here or we can dig this up here. It would make it a lot more difficult if we were to say things like that because these are your relatives.”

**Indian identity**

Having an American Indian identity impacted most aspects of interviewees’ academic journeys. For many interviewees, their tribal culture was one of the first helpers that influenced their interest to pursue degrees in the field of natural resources. Having their cultural perspectives, history, and contemporary issues included in their coursework was beneficial and contributed to positive academic experiences. The connections to tribes
within their research also contributed to some interviewees’ retention. It was more common to experience those supportive factors at tribal colleges than at non-tribal institutions.

Despite those positive experiences in their academic journeys, being American Indian can add to the challenges of pursuing a higher education. American Indian students experience internal conflicts when they encounter overt racism, stereotypes about American Indians, tokenism, and are expected to be a spokesperson for all American Indians or indigenous people (Gervais et al. in press). Some interviewees were exploited by advisors (i.e., their American Indian identity for the purpose of applying for funding, their “free” labor for lab work or data collection, or the results of their research). For example, Interviewee 22 was pushed out of her doctoral program after being dropped by one of her advisors. She also had her tribal identity exploited by one of her co-advisors for the benefit of his own research funding. She felt not being supported academically or culturally were biggest obstacles she faced, and worse, being taken advantage of by one of her committee members.

“I would say my other biggest obstacle was having a professor take advantage... Having a professor who was responsible for you to use not just your name, but names of other students [who] either worked with you or for you but not even directly under him because they have tribal families’ names... in National Science Foundation Grants to get money and ultimately stole a grant from me that should have helped me finish my studies and was not supportive of me during another time when I really needed him to be. That was my biggest stumbling block I think was having to deal with that. Once I figured out what he was doing and found the evidence I could never forgive him for it. I could never believe in that person and I still do not have any respect for this individual whatsoever. I think he saw a way to get money and get an under-represented group into science especially Native Americans so if you put those magic words in there you will get your grant money. He never really endeavored to support Native students, it was just a way for him to get more grant money and I think that was probably my biggest obstacle that I had to deal with and the most distressing.”
Similar to the contributors in Gervais et al. (in press), some interviewees felt compelled to defend their culture or correct stereotypes, which contributed to negative feelings including isolation and exploitation.

It is important to acknowledge American Indian students are having these negative experiences related to their Indian identity so they can be addressed rather than allowed to continue to be perpetuated onto future generations of Indian students. One proactive way of addressing these issues is through training of current faculty at institutions, which can promote better awareness of tribal issues and cultural backgrounds of Native students (Hornett 1989).

Some institutions of higher education are working towards being more inclusive of diversity, but many interviewees experienced being the “only one” in their classes and degree programs (e.g., the only American Indian, the only person of color, or the only woman). Being the “only one” is significant, because it creates daily stresses and energy demands (Kohl et al. in press). Their experiences suggest their institutions still a lack of diversity within their student body. Being the “only one” in their classes and degree programs often contributed to negative experiences or feelings (i.e., feelings of isolation or expectations to be a spokesperson).

Trauma/red rage
After my analysis of each of the interviews and the Talking Circle, I discussed my analyses with my advisor. During our discussion of the analysis of interviews, my advisor thought my interpretations had thoroughly addressed meanings reflected in the interview excerpts being interpreted. However, the excerpt below from a Talking Circle was remarkable to my advisor, he struggled to understand the participant’s reaction to a particular incident or how a non-Indian staff might respond in an understanding and supportive way, and thought the interview narrative warranted further analysis.

“It was not Monday, I went over for a test. The woman was so rude. There was a couple of math conflicts or test conflicts. The math instructor got there before me and told them that I was going to change the class date. I get in there and there are four non-Indians all standing in her office and it was
packed. A girl come up behind me, she calls her in, in front of me. The girl says, “Oh I need to reschedule.” “Oh yeah,” the lady behind the desk says, “Oh yeah, go ahead. What day do you want?” all happy, smiling. And the girl tells her what day and she walks out. [The staff person’s] face goes from a smile to an absolute frown. She starts yelling at me in front of all the people in the office about how she has four hundred students to take care of and I need to be calling ahead. I said, “I am just here to take my test. My math instructor did not come in this morning and tell you?” She said, “Yes, she was, BUT…” And I lost it. I said, “Why in the hell, every time I come in here you treat me like shit?” She said, “Because you are the only person [who] is always late.” I said, “Out of four hundred students? I am the only person [who] is always late? I am never late. I am always here. You guys make me sit out in the office waiting for you to get caught up. I am never late.” It went from bad to worse because she continued to yell. So, I started yelling. Everybody scrambled. Everybody ran out of the office because I know they thought I was… I wanted to jump over the desk and drag her out by her hair but I did not. I would have probably felt better. I have PTSD. A majority of women [who] come from reservations share the same problems I went through. It gives me a learning disability. This woman put something in me that was just unnatural. I did make it through that test that day. But the next day—I had a total… I could not even turn the doorknob. (sighs… silence… sighs) One person almost destroyed my whole career, because I could not finish. I could not walk in the building. I had to call somebody to take me to the hospital. I spent all week… I missed everybody’s programs. Missed everything that was important, all because of one person. The person [who] is in charge of that department over there, she takes me in, this was the third time… this was not the first time… it is the third time. Twice this semester, once last semester. I do not know of anybody else, any other Native students [who] have to go there, but I missed every exam this week. So, that is why I am taking classes on Monday after finals, because I could not walk in there.”

He did not understand why the participant had reacted so explosively, and despite the way the interviewee described the incident, he wondered which participant actually escalated the encounter. As a Native person, I
understood the reaction but was not able to articulate it in an effective way for my advisor. After a literature search, I came upon the concept of “Red Rage” which seemed to appropriately explain the participant’s reaction. In the 1990s, Faith Spotted Eagle introduced the concept of Red Rage as an array of “behaviors displayed by people who have suffered oppression and are in some measure, traumatized by it” (Randall 2008). Reyhner (2006) further connects the trauma, violence, and oppression to historical colonialism, which results in Red Rage. Maria Brave Heart defined historical trauma as “cumulative emotional and psychological wounding across generations, including lifespan, which emanates from massive group trauma (Brave Heart 1998 and 2003).

Until discussing this particular excerpt, individual, historical, and collective trauma were not issues I had pulled out during analysis of interviews, however, trauma was described in several interviewees’ stories. Although the focus of the research was not on mental health or trauma, the reoccurring existence in interviewees’ and Talking Circle participants’ stories suggested trauma should be acknowledged and discussed. The acknowledgement of their trauma stories also validates their experiences.

Interviewee 5 experienced trauma that contributed to unresolved grief. She moved to another state to pursue her Master’s degree and was already struggling with being homesick and having a lack of support from her degree program. She was also facing racism by a program staff member who was convinced she was an alcoholic, because she was native. Then her grandmother passed away and she was unable to attend the services, which also disrupted her traditional grieving process. She did complete her degree, but the overall experience at that institution was unpleasant.

“But this one particular woman, the crazy lady, called me into her office. ‘You are not doing well. You are the poorest student in our program, but I can understand why because look at what we have done to your people…” That was her way of reasoning it. She signed me up for Alcoholics Anonymous on campus. Did not ever think to ask if I drink, because I do not. She just automatically assumed the problems I was having were due to the fact that I was an alcoholic and signed me up. She even took it
upon herself to sign my sister up who was in no way affiliated with the larger university out west. She did this with the other Indian student [who] was in the department... I had to deal with this stuff with this lady for two years. She would bring me to her office and make me call the mental health clinic and sign up for visits and tell them all the problems I was having in front of her. And was just automatically assumed it was, because I was Indian that I was having all these problems.”

“When... some other people in my family passed away, my sister and I had taken care of them through that. We are the ones [who] clean them, and get them ready, and take them through that process up until the point of when their wake starts. We knew my grandma was sick for a long time. She had always asked my sister and I to do that but I could not get away from school because I had to take these biochem classes where there is like 600 people in the class and the instructor cannot make an exception for one person, because if I do that for 600 other people. I tried to get my department to advocate on my behalf, but it ended up coming down to—“Jewish people donate enough to the University [where I earned my Master’s degree] that we observe their holidays on the calendar but you are not gonna observe my religious beliefs, because I am too poor?” is what we got to. I could not leave. I stayed there and she passed away. I did not get to go to any of her services. I failed all my classes for the next quarter. I could not get my head there. My younger sister, she kind of unraveled because she was having her same problems I was having. That impacted my school, because I was trying to help her. This whole month long process of grieving you can have here, we never got to go through, because we were stuck there because it was such a large institution and so scripted and rigid. They did not have any flexibility to accommodate that. If you want to have diversity and bring people here, you have to be able to do that. Then automatically assumed it was because I had drinking problems and other stuff. It was crazy. [The experience] really impacted my classes.”

The narratives of the two interviewees above reflect trauma from overt racism. The concept of Red Rage brings forward the need to acknowledge both historical and individual traumas the interviewees and participants may have experienced. American Indian history includes genocide, colonization, forced
assimilation, and exclusion, which caused trauma, disrupted traditional culture and practices; and has impacted generations of people. The impacts of historical trauma are compounded by contemporary realities of American Indians that include higher health disparities than other Americans (Beals et al. 2005); exposure to violence; and the highest suicide rates among young adults in the United States (Jiang et al. 2015). These broader trauma related issues are reflected in the interviewees narratives of their educational experiences.

The frequency and intensity of trauma interviewees and participants described varied. Some of the kinds of trauma they experienced include: physical assault, terminal illness of family members, divorce, death of loved ones, and accidents. The interviewees and participants reacted to and coped with their traumas in different ways. All trauma stories impacted the individuals’ academic journeys and several reflect the broader health and exposure to violence referred to by Beals et al. and Jiang et al.

While Interviewee 12 was finishing up his Ph.D, his son was diagnosed with cancer. He described that as the hardest thing he ever dealt with in his life. He was able to find ways to be able to work on his dissertation when his son was in a good place health wise and earned his Ph.D.

“My son was really sick when I was in my Ph.D program, I mean a two-year old with cancer, while getting my Ph.D, that was the biggest challenge I faced in my life. It would have been, in a way, less complicated if I would not have been in my Ph.D program when that was going on.”

When Interviewee 27 first started out in college, he was in a car accident and experienced head trauma. Later in his college career he lost his mother. The staff at his tribal college at the time were supportive and helped him during that time. The grief from losing his mother and his coping mechanism of alcohol were the biggest hardships he identified during his academic journey. He completed his Master’s degree and is currently pursuing his Ph.D.

“The most difficult things are more on a personal side like leaving family members and having to overcome grief, I guess and struggling with my own addiction to alcohol.”
Interviewee 30, experienced the most traumas while pursuing her degree. Her story was filled with multiple intense individual traumas while pursuing her degree. For example, one of the first traumas she experienced during her college career occurred while she was attending a tribal college she was physically assaulted in her home. She filed a restraining order against the assailant and then stopped out of college after the assault.

“I was basically traumatized, beaten up in my own home... I was hospitalized after that. I tried to talk to one of my professors about it, but to me I did not really care at that point. I was numb. I think I was still trying to make a way into my mind. I was fighting for my mind to come back to me so I quit going to school.”

When she reflected on the assault, she believed that had a significant impact on her emotionally and mentally.

“From that point on, my life was always just really hard to ever try to balance because of one trauma that has led everything up until this one day of my PTSD contributing to my patterns, my thinking patterns, etc.”

After returning to college at a different institution, she was diagnosed with mental illness and given various medications. About that time, she also got involved in a serious relationship that included violence and added to her trauma.

“It was an abusive relationship and I am not going to lie about that. It was volatile at times, but I realized after so many years... that there were triggers and it all had to do with being triggered and having PTSD. I wanted to make it clear to any mental health person that those are not the things that are going on here, what is really going on with myself is while this is what happened to me and during this timeframe in my life where I felt that I could keep it together and be able to come out strong, but really I felt weak because I could not control one thing in my mind and that was the PTSD and the reoccurrences.”
She became pregnant for her boyfriend. One day she saw the man who had attacked her at her previous tribal college on her new campus. She sought help through her college’s administration and other places within her community but did not receive any support even though she had a restraining order against him.

“In the fall of 2009, I put a restraining order on him. I was pretty sure of myself, that I was going to make it with my pregnancy without being hurt or anything... the person [who] had almost taken my life, had drug me all over my home, beat the crap out of me and had threaten to pretty much kill me...; he actually ended up working here. So I went to the Dean again, because he triggered so many things and so many things snapped in my brain... I had to go get my bike... and I saw this person. I swore inside myself that I had a permanent restraining order on this person and I could have sworn that I brought it to [the] Judge... at the Municipal Court and made sure that it was in effect... I had never wanted to see this person again for the rest of my life. As soon as we cross paths, I look at this person, they look away because it was weird. To me it was like, “am I being stalked now or what?” I went and got my bike and thought I needed to get back to the apartment, because I was panicking and thought it was really bizarre... so I went to the Dean and asked him about that and he said there’s nothing they could do.”

Interviewee 30 also sought help at a local non-profit that worked with women in violent circumstances, but did not get much support from them either. Shortly after the encounters with her assailant on campus a close relative passed away suddenly.

“All of a sudden, like a week later, I had a cousin who I grew up with and was basically like a brother to me..., got into a car accident and he died. I pretty much by then mentally just was not equipped for school or anything. My sister and my mom had to come get me... I went there, paid my respects... I went home and went to sleep because I was tired... then it is probably like 2:00 in the morning and my sister comes in and she [says], ‘You need to hear this.’ I [say], ‘What? I am tired, pregnant.’ So she said, ‘[Your boyfriend] was in a really bad accident.’ So I cannot even make sense of the different names and
feelings. I [said], ‘Is this some type of fucking joke?’ She [said], ‘No. [His parents] are trying to get a hold of you. You need to get a hold [his dad].’ I [said], ‘Well, wait. I am at a funeral. What are you talking about?’ She said, ‘You just need to get a hold of them.’ I think I finally got [his dad] on the phone and I asked what was going on and he said, ‘[Your boyfriend] is in ICU.’ There are just certain words that you hear. He asked if I wanted them to come and get me. I [said], ‘Yeah come get me right now.’ He would not tell me how bad it was, just said they would come get me. It was the middle of the night and I had no idea what was going on. Time basically stood still. My body went numb and everything was misplaced mentally… We were in [another town] and he [said], ‘He is gone.’ I screamed... I think that is the point where I mentally lost it, deeply, mentally I had lost it. I used to be really embarrassed of it but I am not so much anymore, because it is just a part of life and what we go through. I know now that I pretty much had a nervous breakdown... I went to [the state mental hospital] because they sent me there. I was so mad at the judge because I thought it would take a couple of weeks. I would get my mind back together because I did not really want to be there.”

“I do not think they understood, but that was a rude awakening for me, because I realized that I had to raise a baby on my own and I have been since then... I never got proper grieving.”

She returned to her reservation and lived with her father. Her daughter spent a lot of time with Interviewee 30’s father during that time, which she appreciated even more after he was diagnosed with cancer. She struggled to visit her father while he was being treated, raise her infant daughter, studying for her classes, and also dealing with her PTSD.

“Right after that [my father] was diagnosed with cancer so that was the spring of 2010. In 2011, he started his chemo so I would travel back and forth from [the town I was living in] to [the city where he was getting treated] to go and see him while he was in chemotherapy... [By] 2012..., I was so tired, because I was dealing with a dad with cancer; I was dealing with legal issues with my daughter and I wanted her to be acknowledged... Then I had school and had science to study. I remember I would give
myself 20 minutes to get something down then [I would] take care of the baby. But [I had to try] to balance [everything] and I was always drained. In that time, there was about two years I did not sleep... I breastfed her and did not have any sleep. I was also still dealing with PTSD at the time too so it sucked with that, going to school, having a kid and then having family problems with your extended family when they are suffering too.”

Earlier in Interviewee 30’s college career, she got into a physical altercation with other students on campus. She ended up going to the campus health center because of her injuries. After it was determined she had been in a physical altercation on campus, the medical staff notified the police and she was charged with assault. That experience with the health center felt like a violation of her rights, because she had been the victim and was seeking medical help. While dealing with all those hardships described above she knew she needed help, but refused to go to the health center on campus because of her previous experience there. She also realized there were probably other students with similar experiences and similar treatment. She believed she deserved to be able to earn her degree and the academic system needed to change to be more supportive of her and other Native students.

However, despite these traumatic experiences, pursuit of higher education was also, in part a coping mechanism for Interviewee 30. Her love for her daughter was one of the main reasons she returned to college after several of her traumas.

“I decided I needed to finish and just get a degree already and then just go on to some other avenue especially because of [my daughter]. I need to bring her down a different avenue than what I was brought on, because somehow it was blended with the pain that I endured the whole way through personally.”

When reflecting on her traumas, as well as her successes, Interviewee 30 was thankful for the hardships and the blessings. She continued to carry the effects of the traumas with her, but was developing better strategies for coping and surviving.
“I am glad with that life I was able to experience love, giving life, being sober for two or three years. Then being a mother, having peace, and feeling peace for the first time and then you somehow go back and you kind of steer away from that and then you get closer to that peace again. That there has been a huge lesson in my life, even learning coping skills and learning to cope with daily things that were subject too.”

“I have survived it but I am still challenged with these things; not on a daily but just through life. I am becoming more aware of how to work through it with what I have.”

Other interviewees also described pursuit of education as a means that helped cope with trauma. For example, Interviewee 15 relocated to pursue her Master’s degree and ended up getting a divorce in the midst of her graduate work, which was challenging for her. She benefitted from her support system of colleagues and also went to counseling. She found ways to successfully cope with and process her grief. She earned her Master’s degree.

“I had life-changing things going on while I was trying to get my Master’s degree. It was hard, really hard... I was getting divorced. So my husband stayed here and I went there [to pursue my degree]... It was something that just totally rocked my core. I trusted you and believed you and now all the sudden you do not like me anymore. I had to be over in [the community where I earned my Master’s degree], living by myself, in married student housing by myself, and trying to do all this research and then having my whole brain just like whew... I think being away made that easier; being around other people and being in a group there made that easier. I got over it.”

However, faculty’s and staff’s capacity and commitment to being open to understanding the cultural trauma underlying Red Rage, to listen to experiences of students from a different cultural who also have family demands not associated “nontraditional” students, and to build the trust necessary to help Native students feel they can discuss these factors is important as reflected in the next two interviewees experiences.
Interviewee 22 also experienced traumatic family issues while pursuing her Ph.D. Her advisor was not understanding of her situation and dropped her as a student, which contributed in her being unable to complete her Ph.D. After leaving the institution, she became employed in her field.

“I have managed to finish my Master’s but I was not able to finish my Ph.D... My major professor [was] not understanding and not being supportive at a time when I was really seriously stressed from very traumatic family issues that were going at the time. I was not able to get much support once he dropped me... When push came to shove and things got serious there just was not enough support to help me get through and finish the Ph.D.”

Interviewee 9 did not describe a specific trauma experience, but did describe the unhealthy and eventually healthy ways she coped with it. She also acknowledged other Native people experience higher levels of trauma than most non-native, which she suggested might contribute to their attrition. After sharing parts of her story with non-Native faculty she trusted, they were surprised she was able to continue to pursue her degrees. She successfully completed her Ph.D.

“I feel like a lot of Native people go through a lot of trauma and even though that is in our personal lives, it can affect our academics. I feel like little by little throughout my college career I have opened up on some of those things, so that is how I have been working on overcoming those obstacles. I think I had an interesting way of coping, because my coping mechanism was to focus on school. So instead of dealing with my personal trauma and personal things I needed to work through, I turned to school and I think in a lot of ways, that is how I have come so far. Yet at the same time, that was detrimental to my personal life and so what I hoped to happen was that I find the balance with both and I can be an overall healthy person. So obstacles I think can come in a lot of different ways, so sometimes it is just accidentally. Especially for Indians a lot of it is in our home lives too. I have gone to counseling, I have talked to, not really so many of my professors, but a couple of ones I really trust. I have opened up about a little of some things to them. And have been very surprised and happy with their support, so
they understand what I am going through. But it is not just the average academic struggle that the average student has. I mean one professor actually told me, “My God, I cannot imagine going through the things you went through. I have never to even think about that kind of thing in my life ever.” He just explained that to me and that was an eye opener for me. To have someone else tell their story that they had a healthy childhood... that [had] a good supportive life and made it through their Ph.D and their struggles were only the academic struggles. I sometimes think about that and reflect on it and I think how can we overcome any of our obstacles whether they are just academic related or personal. Because you know there were times... that my personal emotional health in general was impacting my schooling. When I opened up to my advisor about that and I just shared a little bit, that really helped me feel supported and he gave me some good advice and that helped me move forward... And only in realizing that I need to work through those things in order to have a healthy life. I want to have a healthy life, am I making sense? I think a lot of Native student’s maybe we do not deal with those issues and maybe that is why a lot of us do not make it. I mean there a lot of different reasons but those are some I think.”

The focus of this research is the academic experiences of American Indians with emphasis on the intersection of their tribal culture. Red Rage is a trauma response that non-Indian staff and faculty might not recognize or understand when working with Native students, such as in the example above. Native staff and faculty might be able to understand some of the underlying causes of Red Rage, but be unfamiliar with effective ways to address the causes and behavior.

Tribal culture impacted many aspects of interviewees’ and participants’ academic journeys. Their tribal culture is also a possible source for contributing to their resilience and coping with trauma. Scholars, clinicians, and prevention specialists advocate for the integration of tribal customs and traditional healing approaches to develop culturally responsive interventions to improve behavioral health of Native people (Brave Heart et al 2011).
As staff and faculty begin to recognize behaviors that suggest Native students might be experiencing trauma, they can help the students in various ways. Listening to students’ experiences, advocating for their students, suggesting counseling, and supporting the student to pursue cultural practices are some ways staff and faculty can help Native students experiencing or coping with trauma.

What can be learned?
Some interviewees expressed feeling tension or experiencing conflicts when tribal perspectives were either not included in their coursework or inaccurate information about tribal people was perpetuated. One interviewee also described the conflict he endured because of the cultural differences and expectation as the biggest challenge of his academic experiences. That is significant and says a lot. Interviewees wanted their knowledge and perspectives included in their coursework and could identify appropriate opportunities, but also did not want to be tokenized or expected to be the voice for all Native people. It should not be the responsibility of Native students to bring Native knowledge and perspectives into the courses. Institutions should require faculty to include tribal knowledge and perspectives in their curricula in meaningful ways and provide the necessary resources for this to happen. The first peoples of the land should have their knowledge and issues included in curricula meant to prepare people to manage the resources of that land. This inclusion benefits not only any Native students, but also all students of those programs.

Infusing tribal culture through research
Interviewees had taken courses that did not include tribal knowledge or perspectives, but they were able to identify appropriate opportunities for such inclusion. One way interviewees were able to include their tribal culture in their academic experiences was through research. Interviewees conducted research on their tribal homelands, with culturally significant species, or that included tribal knowledge.

It was toward the end of Interviewee 9’s Master’s work when she first became exposed to the field of TEK. Realizing there was the possibility of including cultural components into her research through the use of TEK was part of the inspiration for her continuing on to pursue her Ph.D.
“Once I got into my wildlife program and into the Master’s and started going on that path, I realized that I really wanted to continue on the educational journey and I was not quite ready to go back and work for the tribe yet and I thought maybe I could be more useful, more helpful if I went for a Ph.D and maybe even become like a professor or something. So I was still kind of open at that point even through my Master’s, and once I started thinking about the Ph.D, that is when I learned about the field of Traditional Ecological Knowledge. I actually had not had experience with that field before and that kind of broadened my horizon, and I thought, oh my gosh, what if I can add this whole TEK component and a cultural component to wildlife research, and if I could do that in a Ph.D program, that is going to be more valuable probably than justifying itself which I had learned in my previous two degrees. So that is kind of why I want to do the TEK and wildlife research.” Interviewee 9

While in graduate school, Interviewee 17 became a father, which added a new dimension to his thoughts about his research and field of study. He described the importance of linking his graduate research of bison conservation with his tribal culture and the importance of ensuring the possibility his son will grow up to see bison on their reservation as motivation during his academic journey. By using his scientific training, he intended on conserving a culturally significant species for future generations.

“I think I had a unique interest in those conservation questions and natural resource questions because of cultural heritage linked to bison, conservation and culture... I am doing this because I want to but it means a lot if my son sees bison running across [our reservation].” Interviewee 17

Interviewee 8 conducted research as part of her capstone project for her Bachelor’s degree at her tribal college. Her study focused on salmon habitats, which was a culturally significant species for her people. It was important for the future of her people to know salmon would have adequate habitat because salmon were essential to their way of life.

“Yes I did, my capstone as a matter of fact because we had this area that was going to be reconstructed and restored to a slew... What I wanted to do with the channelized water that was
already there, I did sampling of the basic macro invertebrates. The reason for that was that is what little salmon eat and they stay in the water close to the ocean for a while as they are getting ready to go out. Depends on the species of course, but if you can feed the fish and you could keep the water cool enough because the water needs to be cool for salmon, and keep it oxygenated enough, then you are going to have a healthy fish habitat. We are salmon people up here, salmon is essential to our way of life so I think that is tribally or culturally relevant to know if you are going to have a home for the salmon to live in.” Interviewee 8

When Interviewee 18 entered college, she started out at her tribal college on her reservation. Then she transferred to a university in her state that had a large population of Native students and a strong Native student support system. For her Master’s program, she chose a university in the state she grew up in, which was far from her tribal community and much more urban. She knew she had to choose a Master’s research project that included tribal knowledge because it related to her and she would be able to complete it.

“I think I know for my Master’s project if I did not have something that related to me, I do not think I would have completed it. I do not think I would have been interested in wanting to complete it. So when I picked my project, I specifically was like, “I need something that has to do with tribal/cultural knowledge.” Living in the city, again, you kind of forget; you are no longer connected to your home community so you do not get that same feeling. You do not get to go hang out with people you know and get rejuvenated again… I think it absolutely made a difference in whether or not I completed my masters. For my undergrad degree, it did not really matter so much because here on campus we had that support system. I did not necessarily need to have it in my academic curriculum; I had it in my social life. That is what made a huge difference in me sticking around and continuing and to graduate.”

Interviewee 18

What can be learned?
Interviewees conducted research with cultural components for different reasons such as intending for the research to benefit tribal people or to help keep them motivated to complete it. One way interviewees were
able to include a tribal component or emphasis in their research was through studying a culturally significant
species. Suggestions of ways to support Native students who wish to include their tribal culture in their
research are to collaborate with tribal agencies, be supportive of working with culturally significant species, or
be supportive of the inclusion of TEK. Having access to Native faculty within their programs or on campus can
also be helpful. Some tribes may request Memorandums of Agreement or Understanding, passage of
resolutions, or possibly going through a Tribal IRB.

*Cultural Conflicts*
Interviewees had to make choices and sacrifices to pursue their degrees. As interviewees spent more time in
their degree programs, they struggled with personal or internal conflicts such as identity conflicts, feeling
isolated because of the lack of other Indian people in their community, feeling homesick, lack of participation
in their culture because of their academic pursuits, missing family, and balancing their academic pursuits with
their roles as mothers.

Interviewee 20 was very conscious of being Indian because he felt like his academic performance was being
judged based on his Indian identity. He often chose not to share his tribal background for fear of having his
abilities judged. He was able to overcome that fear and regain his confidence in his Indian identity after
attending his local college with one of his childhood friends.

“I felt like I was getting judged on my Native American background and identity more so than I was on
my academic capabilities… That made me retreat from giving my background when we would do meet
and greets. I would only tell people my first name, I did not give my last name, I did not tell them where
I was from. I just told them what I was studying and what I was interested in and I left it at that. It
would make for some awkward interactions because people wanted to know more about me. I would
say, “I do not wish to share that”… I was so afraid of being judged based on my abilities relative to
being a Native American versus being judged on my abilities of being a human… I came home and I
met up with a childhood friend whom I had not seen for 5 years, from the time of graduation until I
graduated from college… He dropped out of the school that he was attending and we drifted apart. We
happened to run into each other afterward and he was thinking about going back to school. I told him that I was planning to go to graduate school but I need to take some courses to beef up my knowledge in a certain area. I said, “That is available at [our local college]. Would you be interested in going to [take classes there]?” He expressed that he was. It was an opportunity to go to college again with one of my childhood best friends and maybe help him succeed this time around... It was really exciting for me because we were both [tribal] members... Being back around my home Native community, I did not hear those words, “You are doing great for a Native American,” anymore. I did hear, “You are doing great for a [tribal member].” At that time, it did not bite me the same way as the other statement did. I really wanted to help my friend. I wanted to help inspire him. I wanted him to go on as well... That made me proud to know that I helped him with that. I regained some confidence in my identity and feeling like I was okay with saying, “I am Rick Jones and I come from Idaho and I grew up on the [my tribe’s] Indian Reservation.” — Interviewee 20

Interviewee 7 described struggling with an identity conflict of being an Indian man studying western science. When studying a concept in a statistics course he was able to come to terms with his Indian identity and his academic pursuits. He continued on with his academic pursuits to earn his Ph.D and over the course of his career mentor hundreds of Native students in the STEM fields.

“As an Indian man and practicing my culture, how do you place the scientific value or calculator formula that measures that? You just cannot. In those regards, those are times that were challenging for me. I was studying this discipline, this career and Western science and here I was living a life as an Indian man. That was very, very difficult for me.” — Interviewee 7

In addition to conflicts interviewees encountered related to having an Indian identity while pursuing degrees in western science fields, interviewees also encountered conflicts related to differing cultural philosophies.
Interviewees 24 and 8 shared the belief that the term natural resources is not culturally appropriate for the creatures and elements the term is meant to describe. Instead, they shared the tribal concept of nations or relatives.

“If you think about it, we are a natural resource as a human being to anything that is hungry. They call everything our relatives and our relations, I kind of like that term much more so because resources provide... because it is yours, natural resources provide, it goes out there for you and you could take and do with it as you please. So we go about that extracting, breaking down, taking, using, selling and making a profit for something that goes into a bank and you could buy a new car or something. When you call it your relative or your relation, you recognize that it can bring you air, in fact, plants actually supply a lot of air. The rocks they support everything. The soil supports and grows everything. I mean we are all part of the same thing.” Interviewee 8

Interviewee 3 was keenly aware of the stigma Native people attached to research because of the previous exploitations by researchers on Native people. She suggested how she chooses to move forward with pursuing research in a way that she is comfortable with.

“What we really need to be careful about it calling it research. We can identify things, we can be curious about things, and we can find answers to things we just do not have to give it the ugly word research. Because I think research comes with a really negative stigmatism because we have been researched. A lot of the things that have been researched about us as people really have not done anything but negative for us. The terminology within the context needs to be changed but to say that we will not do research because you are curious about something. I think people need to stop worrying about what everyone else thinks because you are a good enough person and you feel okay about it and if you feel like you are not harming anyone through your research or through your self-discovery or exploratory with the mind God gave you and it is not going to hurt anyone, go for it.” Interviewee 3
A few interviewees described ways their academic preparation in the sciences changed their thinking and ways of interacting with the world from a tribal paradigm to a western science paradigm. For example, Interviewee 10 described her experiences with scientific discourse as potentially mean and unconstructive, but those experiences also helped to prepare her for her future work. After earning her Master’s degree, she returned to her tribal community and began working for their tribal natural resources. Her academic preparation had prepared her for the science behind her work and even how to engage in scientific discourse, but she found she had to learn about how to navigate the tribal government, which was something her program had not prepared her to do. Similarly, Interviewee 12 also described how being in the sciences changed his thinking and the way he interacted with the world by making him more of a critical thinker. He described it as spending “more time in his head rather than his heart.”

“How things that I did and said would affect other people and so in grad school, and in undergrad really, that western science is very logical. It teaches you to question things and it teaches you that it is okay to question things and it is okay to disagree with people as long as you have facts to back it up. I think ultimately that helped me develop a thicker skin and helped be more of a critical thinker about things in general which are good. However, I also saw those people [who] completely did not think about how things that they would say to people, that they would just say things sometimes that were just outright rude or mean or would just completely negate all of the work that someone had done for their thesis work or something. It was okay for them to be mean, be critical because they were a scientist. I think that I saw a lot of examples of people taking western science, that critical thinking and that logic to a degree where it was not constructive anymore and it was just sort of almost cutting other people’s work down to make their work seem better or more important.” Interviewee 10

Interviewee 2 expressed feeling disconnected from his family on his reservation and not being able to contribute to them because he was living away from them and their culture. He also described feeling his children were being affected by growing up away from the reservation, which was different than his upbringing.
“I am so far away. I am only five hours away but it seems like it was far away. In terms of it being impacted, I cannot be engaged like I want to. I cannot say to my family… “I can do this for you. When you go to the sundance, I will get the stuff for you.” I cannot just drop everything I am doing to go back and do that. It is so hard for me. I am starting to lose my knowledge of it (his culture), or it feels like that. The long term impacts are, my children, because of my educational experiences, ending up getting a job here with the federal government in natural resources is that I cannot get home to have my children experience that. I cannot give it to them in our homeland like it was given to me. That is really a big impact for me.” Interviewee 2

Interviewee 12 described how his time for cultural activities lessened as he continued pursuing advanced degrees. For example, being proficient in his language would have been beneficial for his research. He had been learning his tribal language but was not able to continue studying his language because of the demands of his academic pursuits.

“So when you decide to take on some big responsibility, some things just basically have to give. You can only fit in so many different things. I have definitely given up time doing more spiritual things, cultural-based activities, or just spending quality time with my community members (tribal community members) because of the career choices I have made. For example, I started studying for my tribal language when I in my 20s. When I decided to get my Ph.D, it kind of put it an end to that. It did not have to but that something had to give and that is what gave. I just could not fit in the trips up north to be immersed and a language learning environment. I just could not fit in anymore. It went. It would have fit in very well with my work to be a proficient speaker or a fluent speaker. It would [have] totally helped my work. There is a necessary disconnect there. You just cannot fit everything in. There have been lots of examples of that over the last 10 years in particular where I could have clearly been doing something that would strengthen me as a Native person, to strengthen my cultural identity, strengthen in my ties to the community, strengthen my understanding of our teachings and that sort of thing, and I have been focused on my kids and my job.” Interviewee 12
What can be learned?
Interviewees described internal conflicts they encountered related to their identities as Native people in the sciences, differences in cultural philosophies (e.g., natural resources versus relatives or perceptions of research), and sacrificing parts of their cultural life in pursuit of their education. Some of the conflicts interviewees described were able to be resolved, but the resolution was something they had to find on their own. Other conflicts were not able to be resolved but interviewees came to terms with or accepted those conflicts. Staff and faculty who support Native students might not even be aware of or able to understand the internal conflicts the students might be experiencing related to their Indian identities or differences in cultural perspectives.

Tribal employment preparation
As interviewees journeyed farther along in their academic pursuits, some interviewees were presented with employment opportunities through their tribes and other tribes. Interviewees described the positive impact of either participating in an internship with their tribe, working for their tribe while they were students, or having cooperative educational agreements with their tribes.

It was after being offered a cooperative education agreement that Interviewee 19 became more focused on completing his degree. The cooperative education agreement through his tribe provided him with funding to complete his degree with the expectation he would work for the tribe after completing his degree. He did earn his Master's degree and work for his tribe's natural resources department for a number of years before becoming a faculty member at his tribal college.

“The most significant change was I received... a cooperative education opportunity through my tribe where they offered me a job and at least partial payback of any student loans if I had any, in agreement for me going back to work for them upon completion of my degrees... I realized that school was about more than just me, that there were other people [who] were paying attention and I now had this contract with the Tribal Chairman’s signature on it. Other people were investing in me and offering me something in exchange for some reasonable academic performance. I think as much as anything
else, I was beginning to finally be a little more mature and the wildlife tech job that I had helped me focus a little more on the importance of school. It motivated me, I think, to finish.” Interviewee 19

Interviewee 30 participated in an internship with a different tribe’s Forestry program. She also participated in an internship with her tribe where she had the opportunity to help manage bison. She expressed her appreciation of having those diverse experiences in the field of natural resources management, specifically with tribes.

“...an internship [with a neighboring tribe’s] Forestry... was work within a greenhouse with tribal plants. That was pretty amazing. Given that I got that experience, I still appreciate it today. That was one small part of my experiences within the educational system and being part of that, it was pretty cool. That was one thing I did and get to help manage. [My tribal] community during one of my internships... I got to go out and manage the buffalo, which was a totally different type of management. That was actually another experience and I’m happy I got to experience that.” Interviewee 30

What can be learned?
Interviewees described their employment experiences and cooperative agreements as beneficial by providing them with experience and motivation. Institutions can reach out to tribes to identify the availability of similar opportunities or cultivate partnerships with the intention of developing similar opportunities.

Defining role of natives in natural resources
Interviewees had made the conscious choice to enter into higher education and pursue degrees in the field of natural resources. They had positive and negative experiences. After completing their degrees and entering the workforce, interviewees reflected and described their perceptions of what it meant to be an American Indian in the field of natural resources. Some of their ideas described the responsibilities of managing tribal natural resources and how that was more complex because of tribal sovereignty and treaties.

Interviewee 5 described how she viewed the status of tribes as sovereign domestic stewards as an advantage by allowing them the flexibility to create more stringent resource management plans.
“I definitely think that Indians, even the words domestic stewards of the United States, I mean we are supposed to be sovereign but we are domestic stewards. We still have that, a lot more flexibility like a state does... But because we are a sovereign domestic steward, we have the ability to say... say I want to have an air quality program. I have the ability as a tribe to make that program more stringent than a state does. It is a huge advantage. Especially given that tribal people have a genetic make-up that predisposes them to some of the exposures and stuff in the environment.” Interviewee 5

After earning his degree, Interviewee 12 described feeling the responsibility to advocate on behalf of tribes.

“You cannot be in this field and be a Native person and not speak up for, like try to provide some voice on issues that are relevant to tribes or remind people of things like treaty rights or remind or teach people about the different priorities that tribes have compared to their nontribal neighbors. Or remind people that every tribe is not the same and their priorities are all different and they are all politically distinct communities with different needs. For me it is a responsibility to constantly be involved in that education or advocacy process.“ Interviewee 12

Interviewee 7 described feeling a sense of responsibility for working in the field of education by supporting Native students pursuing degrees in the field of natural resources.

“It is a huge responsibility. It is a huge responsibility. For a number of reasons, one is just when you look at critical mass of natives scientists, of natural resource managers across the population there is just so few. And yet the resources that the tribe are responsible for require so much expertise and so much really education and understanding. The people [who] are working in the tribal resource programs now are some of the most, hardest working, underpaid, undervalued, under-appreciated people if they are worth their salt... I think it is exciting that I get to see the lights go on in those next generation of leaders when they connect the dots, when they see what natural resource management needs especially against the larger backdrop of their culture or when they can make the ties back to their culture... I know that the work I do is greater than me and it has to be because the work has to be able
to outlive me. What I do has to go well beyond who I am as a human being. Being able to be a part of that is probably the most rewarding. And knowing that I am doing everything I can to pass this knowledge, this awareness on, and not only pass on what I know but demand more from those emergent leaders then what I could ever aspire to be.” Interviewee 7

What can be learned?
Interviewees described a sense of responsibility to manage resources in ways that were congruent with tribes’ goals and philosophies. Sometimes those management strategies were different from non-tribal agencies. Interviewees also described their work in terms of future generations of Native people. Institutions of higher education should consider including discussion of issues specifically related to the management of tribal natural resources to help prepare their students as they enter the field.

Others’ perceptions
Interviewee 19 described how his perception of himself as a Native person in the field of natural resources changed after working in the field and observing others’ perceptions. His academic preparation had given him the scientific knowledge and technical skills to complete his job, but when schools requested presentations from his department they specifically requested him. He realized it happened because they had the expectation he would be able to make the connection between his tribe’s management practices and their traditional knowledge of the resources.

“I did not perceive myself as being any different or having anything in particular that was expected of me or was not expected of me. As I progressed in my career and during my education, I started to realize that there were few to no Native people in my chosen field of study. It also became fairly common that although there were other wildlife employees in the tribal government, I was the one [who] was requested to give presentations to schools. I began to realize that those people wanted something more from me than what they would get from a “regular wildlife biologist.” I started to realize that that is what they wanted; they wanted more of a traditional knowledge aspect which was, frankly, for a long time something that I was not knowledgeable of and not comfortable in providing. I
“did not see it as, it took me a long time to recognize that that was a role that I needed to play.”

Interviewee 19

Interviewees also described how others perceived them after they earned their degrees and in some instances treated them poorly.

Interviewee 11 described being perceived as an inspiration by her friends for completing her degree, while other interviewees described having others in their community being resentful or feeling like they are a threat.

“The majority of my friends are, they keep telling me how proud they are of me as a Native American woman. I am an inspiration. I really do not feel like it. I was trying to do what I want to do to take care of our environment. I feel like it has been positive. My daughters are following in my footsteps of pursuing degrees.” Interviewee 11

Interviewee 15 also described thinking about how others perceived her. After earning her Master’s degree she chose to return to her reservation to work and was treated poorly by some of her community members.

“The difficulty in coming out of a Master’s program and trying to go back into a tribal community. Being confident in what you have now and being pushed back against because other people are resentful that you tried harder than they did... That is the hard part. Maybe trying to decide if you want to work hard for your tribe at your tribe or do you want to be perceived as a great Native American woman scientist out in the rest of the world for other people to see that we are still here and we are smart people instead of tucked away on a reservation.” Interviewee 15

Interviewee 8 was also treated poorly by people in her community after she had earned her degree. When she had entered college, her intention had been to earn her degree and help her people by managing the natural resources. The inability of getting hired by the nontribal administrators who ran her tribal natural resources program defeated the purpose of why she had earned her degree.
“That I am a threat to the people in the administration. I am a degreed Native in their natural resources department here so they do not want to hire me because they are nontribal. I do not know if it is true for any other reservations, being that I am a lonely tribal member with a degree, if they were going to take me on I have a right to challenge anybody in any position who is nontribal. So yeah it is not going to happen for me, which is really kind of pokey because before me is who I came home to help... I think there is a lot of room for academic improvement in the natural resources department. It is just for me being a Native on my own reservation and not being able to work in natural resources department is not good. It is kind of defeating my purpose.” Interviewee 8

What can be learned?
Interviewees were perceived in positive and negative ways after earning their degrees. Some interviewees were perceived as role models or inspirations. Other interviewees were perceived as a threat by community members or employees in their tribal programs and consequently were treated poorly. Agencies and institutions that serve Native people can counteract some of the negative impacts of others’ treatment or perceptions by highlighting or featuring the accomplishments of their Native employees or students. Although such a campaign might not change others perceptions or treatment, it can serve to help their Native employees or students feel appreciated.

Lessons for the field of natural resources
As interviewees reflected on their journeys, they also described lessons they had learned about tribal natural resource management including how resource management agencies interact with tribes, the kind of expertise required to effectively work in the field, the politics and jurisdiction of tribal management, the need for more tribal knowledge in management, the similarities and differences of tribal and non-tribal management goals and strategies, and opportunities for change in the field.

Interviewee 16 described learning about the difference between western science management approaches and tribal management approaches. He described both as having similar goals of restoring or protecting the
resources, but with different purposes like having access to the resources for ceremonies for generations to come versus restoring the resource as quickly as possible and moving on.

“It showed me what kind of goals... What the end goal was as far as the culture. We want clean air, clean water. We want it to be so that we can enjoy it and have it for ceremonies because we have done it for years, hundreds of thousands of years. As far as western science, it is more like let us get it back to before man but it never kind of gave you a reason to appreciate it more. You appreciate the process but not necessarily the end product. There is different goals. As far as culture, what we want in the end but we do not really care how they get there. We do but as long as we get there. Western science says, “Get there as quick as possible. Let us do this. Let us do that. When we are done, let us move on.” Those two are not really contradicting each other but there is a big gap.” Interviewee 16

Regardless if institutions of higher education have space for tribal culture, Indian people are scientists and have been for generations.

Interviewee 14 was mentored by her grandmother who began teaching her about being a woman scientist through her tribal knowledge she shared with her. This preparation helped her see tribal knowledge as scientific and valid, as well as see herself as a scientist. This was an important foundation for her journey through higher education where she encountered many people with opposing beliefs. It was not uncommon for her to be the only Native or one of only a few women in her classes.

“My grandma, that is who raised me. She stayed with us when we were not here. That is where I went back and I stayed with her a couple of years, stayed summers with her. They gave me to her and that is what I did. I used to not even understand what she was doing with me until way later, but I did not know that she was preparing me for what I am doing now... We have a long legacy in our family of women scientists. I am just continuing that on.” Interviewee 14
Some interviewees described academic journeys with numerous hardships related to the lack of tribal culture at their institutions or conflicts between tribal culture and western education. Interviewees persevered. One way they dealt with those conflicts and hardships they encountered was by taking the strength from their tribal cultures.

More Native people need to seek the degrees and acquire the credentials. As evidenced by the previous statements above, there is a need for more Native faculty in higher education. There is also a need for more Native scientists who can include tribal knowledge in their research in appropriate and meaningful ways, not just as an add-on for funding.

“I think it is very important and not in a pompous way. We are natural scientists. I truly believe that we are natural scientists and to have the education and the credentials to be able to say this is what I know. And to say it in a really meaningful way because it is what I know. To have people listen to that, to satisfy their intellectual pride, you have to have credentials in order for them to give you any attention... That is where the funding is but in reality, what is the intent? To have a Native American in that position to say, “Yeah, I am going to include TEK in my curriculum or in my research.” Not just as a job, or this is what I have my degree in so I am going to put on a front and pretend I really care. That is why it is important.” Interviewee 27

What can be learned?
Interviewees described differences in management philosophies and systems of knowledge between Native and non-Native people. Native people can understand the philosophies of tribal management strategies and plans in ways non-Native people might not be not because of their connection and understanding of the culture. Native people have knowledge and experiences that have informed their management of their land and resources for generations.

Summary
Interviewees’ early experiences with their tribal culture influenced their interest in their natural world, which developed into a desire to pursue degrees in the field of natural resources. Their tribal cultures gave them an
appreciation and respect for the natural world and its resources. Tribal culture influenced their choices of institutions. Aspects of their tribal culture at institutions provided Native students a place to learn and gain their confidence in safe spaces. Prior to entering higher education, the influences from their tribal culture had been positive. Once they entered higher education, the influences and impacts of tribal culture were sometimes positive and sometimes negative. Some interviewees had strong support systems and felt their tribal cultures and identities were reflected and respected. Some interviewees experienced culture shock and racism. By being aware of the ways tribal culture affects Native students’ academic journeys, institutions can be strategic about how they use their resources to support Native students.

Vision
The beginning of the interviews focused on their academic experiences and then moved into their professional experiences. The last thing interviewees were asked was for their vision of an ideal academic experience for American Indians pursuing degrees in the field of natural resources. Asking about their vision for an ideal academic experience at the end of the interview allowed interviewees the opportunity to reflect on their own academic and professional experiences to inform their vision.

Understanding the vision of an ideal academic experience in the field of natural resources for American Indians developed by American Indians who have identified the helpers and overcome the hardships of pursuing degrees in the field can help inform institutions who offer degrees in the field of natural resources or agencies who support American Indians in their academic journeys.

This nomethetic analysis will synthesize the visions of the interviewees to identify the significant helpers and strategies for avoiding hardships to facilitate American Indian student success in natural resource degree programs. The interviewees’ visions of the ideal academic degree program and set of academic experiences for American Indians pursuing degrees in the field of natural resource-related degree programs touched on five different categories: degree program structure and implementation; extracurricular activities; support systems; Tribal Colleges and Universities; and Other.
**Degree Program Structure and Implementation**

Interviewees shared specific visions related to degree program structure and implementation. Their visions included suggestions for oversight of the program, ways the program can support maintaining and strengthening cultural connections, the course content and teaching methods, job preparation, research and finances. This section of visions is informative for institutions as they develop degree programs or strengthen their current programs. This section can also be a guide for potential Native students to evaluate the degree programs of institutions standards recommended by American Indians who have pursued and earned degrees in the field of natural resources.

**Oversight**

One interviewee acknowledged some campuses may not have Native faculty to assist with the development and implementation of a degree program for Native students. She suggested there should be a Native oversight committee on campus to advise the degree program (I22).

> “If there is not tribal faculty, I think there needs to be a group of advisors made up of Native people on campus, or in the Native American Studies Department or maybe student representation that have some oversight in terms of how Native students are recruited, supported and encouraged to get through their program and also on the curriculum.” Interviewee 22

**Maintaining and Strengthening Cultural Connections**

Interviewees placed value on being able to remain connected to their own tribal communities and culture, as well as being able to visit and learn from other reservations. For example, Interviewee 9 appreciated financial support she had received to be able to travel home to participate in ceremonies. Interviewee 28 believes there is a value in having opportunities to visit other Native communities as part of the academic experience.

> “[Providing financial support for students to return home to participate in ceremonies] was really awesome, they stopped doing that in the last couple of years. That was huge to know that you had the support to go home for the ceremonies as well. So if it was possible to bring that back, I think that would be really good, too.” Interviewee 9
“That is one of the biggest issues I think being a Native student here, or just being a Native in general, is the lack of exposure to what is happening on different reservations and the wealth of diversity that there is in Indian Country. Getting exposed to that I think would be huge... but also had a field component to go visit different reservations; being able to experience what was going on at the different reservations; and being able to learn from tribal natural resource management. That would be an incredible experience if you could do that. If you could go talk to an Alaskan Native corporation about how they are managing like salmon fisheries vs. traveling to a Pueblo group and learning about how they manage water or whatever... The travel component would be one of the most valuable but it would be most or all in the field that is what I would do with it.” Interviewee 28

Coursework
Interviewees address the kinds of courses that should be included in the degree plans and teaching strategies that should be implemented by the faculty teaching those courses. Some examples of the coursework recommendations interviewees described include courses that are experiential, hands-on, teach students how to use equipment, include field work, prepare them for working in various agencies based on their expectations, provide strong preparation in physics and biology, small group discussion, focus on creativity and problem-solving, and include case studies. Interviewees also described various ways tribal culture should be included in the coursework. Specific coursework recommendations are addressed in sections below.

Interviewee 7 described how learning science should be experiential to help students understand concepts and theories they learn in the classroom. He believes being in the field and becoming part of the environment they are studying will help students connect abstract concepts with concrete experiences.

“The ideal experience is immersive. Science is experiential. You can learn concepts and theories out of a book and try to connect dots but until you get your hands dirty then it is meaningless. Until you understand where you are in a whole larger framework then you just do not get it. You cannot be an ecologist unless you get out into the field and get dirty and become part of the ecology. Point one
would be, the ideal experiences: to get dirty with the science, become one with it, make it part of you, whether it is through biochemistry or wildlife ecology or atmospheric composition, whatever.”

Interviewee 7

Interviewee 13 placed a value on including professional preparation in the students’ experiences. Professors and students would spend time in the field with tribal professionals to learn about the problems and politics of their work. By having professors engaged with the professionals in the field, they would be able to adjust their curriculum to responsive to the needs of the tribe in the preparation of their future professionals.

“You would have classrooms, lectures, you would have to present and do reports...I would say a third of the time you need to have that experience where you are integrated into the professional career with the tribe that you want to go into. You are spending X amount of hours with the tribal professionals in the field doing what they do, seeing their problems, seeing the politics and so forth. And then you could relate, the professors would be there with you doing that not just send the students off and they learn whatever and they come back and you do not know what they learned. Professors need to be there too. Really, the true way is that your teachers are the professionals and the professionals are the teachers. The teacher teaches half the time and works for the tribe the other half the time. That way you are going back and forth and you can change your curriculum to whatever the needs of the tribe are and be responsive to the needs of the tribe.” Interviewee 13

Cultural content in coursework
Interviewees believe tribal culture is important to be included in the coursework and would include tribal history, perspectives, TEK, tribal issues and case studies, as well as tribal languages.

“The lack of cultural consideration and the lack of cultural knowledge in my classes really made me a lot more determined to add that into my teaching... I became very determined that it would be part of the pedagogy that I was using... I am lucky because I get to teach other teachers. I incorporate that into
my education courses especially because I want them to pass that on to kids. So that kids, by the time they get to be college age, can say, “I know that my people have had ideas on forever.” Interviewee 24

Tribal perspectives
Interviewees envisioned the inclusion of the students’ tribal culture in their fieldwork and tribal perspectives in the content for the benefit of Native and non-Native students.

For example, from her work with a federal agency, Interviewee 22 saw a value in both Native and non-Native students learning about Native and diverse cultures and perspectives in preparation for their professions in the field of natural resources. She connected Native students’ academic success with the acknowledgement the ways tribal knowledge can contribute to western science in the field of wildlife biology and management.

“You go out into the world and not everybody is going to become a quantitative academic and teach college for the rest of their lives. You need to know, even if you do not understand, and I am speaking for non-Native students, even if you do not know anything about tribal culture and it is not your culture, if you go out into the field when you are working and you have to just all of a sudden start dealing with tribal entities, you need to have that skill set to understand where they’re coming from and how to talk appropriately with them to get their perspective in order to be creative in incorporating that into whatever it is you are working on with them. I also think that for tribal students to get through the program and be successful there has to be some acknowledgement of the value of their culture and what tribal knowledge can contribute to western science in terms of wildlife biology and management. There has to be an acknowledgement of that and I think there should be a course or some kind of course that teaches about cultural perspectives, not just Native American, but dealing with cultural perspectives or dealing with local knowledge.” Interviewee 22

Tribal knowledge and Traditional Ecological Knowledge
Interviewees envision tribal knowledge or TEK being included in the course content. They discussed the importance of acknowledging the value and validity of tribal knowledge.
After completing her Master’s degree, Interviewee 10 returned to her reservation to work as a tribal natural resources professional. She valued the western science in her curriculum for her own preparation, but envisions an ideal degree plan would also include Native American Studies courses or classes that incorporated TEK.

“I would see a natural resources curriculum that is split between western science and between like a Native American studies or that Traditional Ecological Knowledge of things and sustainable management and traditional management. I think that the western science is important for natural resources students to have but I also think it is very important to have that cultural connection and a broader view of saying and a more sort of historic view as well. I would say a mix of both the western science and the Native American studies.” Interviewee 10

Contemporary Tribal Natural Resource issues

Interviewees also envisioned courses that included contemporary issues of tribal natural resource management.

Previous excerpts build on the idea that working in the field of tribal natural resource management requires different skill sets and will include different issues than working in non-tribal natural resource management. Interviewee 17 described taking time in a course to look more closely at careers on and off tribal lands to evaluate the differences in how those places are managed to help prepare students for working with tribes and tribal natural resources.

“I think that course would need a one or two week session or component that really looks at, maybe it fits to the end talking about how do these careers... these careers are available both on tribal land and non-tribal lands; what are the differences? Not necessarily showing you that you can go after those jobs but to make students aware early on in those careers that there are a lot of differences in how these places are managed based on whether or not they are tribal lands. Also explaining why they are different. I think telling somebody they are different is one thing but I think really being able to explain
why they are different that is a crucial link that has to be made. It does not have to go in depth about tribal sovereignty rights. Just talk about the history and maybe not even the difficulties. I do not think you want to focus on the difficulties of working across these borders but the benefits incorporating these places in your management structure.” Interviewee 17

Tribal languages
Interviewees envisioned the inclusion of tribal languages in the degree programs. Interviewee 26 described the importance of including tribal language in the preparation of students. Similar to previous statements about the importance of including TEK within the curriculum, she placed a value on including the tribal knowledge and values held within tribal languages in the academic preparation of Native students. She believed this was a viable option with the increased number of Native faculty who are teaching in the field of natural resources.

“For one thing we would have many more Native professors in... [the field of natural resources] teaching those classes... I think there absolutely would have to be the language element to it. To get the immersion-perspective and have a truly integrated perspective it means I just do not want to have everybody from a textbook just absorbing that, I think the language part of it because the language contains so many of our values. If you could teach that to students about, “This is why this is so important and here is how you may have been taught science over the years. Here is why we do not have a word for this because it is a part of everything that we do.” That type of thing. I would have a much more integrative structure with it being taught by Native professors if it were up to me.”
Interviewee 26

Culturally informed teaching methods
Interviewees envisioned tribal knowledge integrated in the course content, as well as influencing the teaching methods. Interviewees identified what sort of cultural understanding is required to teach and engage with Native students.

Previous excerpts describe the value of including interactions with natural resource professionals in the academic preparation of Native students. Interviewee 14 further suggests science professionals need to be
engaging with Native students before they even enter higher education. Within this idea are a couple of important pieces. Part of the importance of this interaction is to enrich the experiences of Native students, but another important part is the idea of the science and professional community giving back Native communities.

“I think that the people who are in there now either need to volunteer, if they are working at NOAA or somewhere like that and make time as an adjunct or something where they are teaching other Native students and giving back that way. I think that you need to go back to the reservation and teach... You need to find your Native science students because you should start [early] as with the field centers approved, K-12.” Interviewee 14

Interviewees acknowledge the importance of a balance of western science and traditional knowledge within the curriculum. Interviewee 29 believes it is important to have faculty who know and understand what the specific natural resources mean to tribal people. He believes there is a need to have the scientific and cultural perspectives for problem-solving and to make a more supportive environment for Native people.

“I think the best thing would be to have traditional knowledge or cultural values infused into the experience. Also, you still need to have the scientific perspectives, but it is the cultural lens makes the difference. We already see what non-Native biologists are like and what they can do... They will never know the real meaning of the fish to who we are. They will never know... That means we need to have our own people working on these things too and there needs to be diversity of thought and problem solving... That is the ideal is a fusion between the two and providing a supportive environment for Native individuals.” Interviewee 29

He also suggested strategies for supporting faculty who teach Native students. Part of better serving Native students would include providing some education for non-Native faculty to help them better understand Native people. Another important way to impact Native students is by increasing the number of Native faculty. He believes this is significant because of Native ties to the land and resources, not just because Native people are an underrepresented or minority population.
“There has to be some sort of education process for the faculty, for the non-Native faculty. So one is infusing Natives into professors and the other one is educating the non-natives to where we are coming from. This is not just a minority issue. We are different than that because this is the land that they are on. It is our land. It always has been our land. It is not just a minority issue.” Interviewee 29

Interviewee 8 described ways teaching methods could integrate tribal culture by modeling teaching methods after the teaching methods of previous generations of tribal people. Grandparents took their grandchildren out into the environment and taught them through hands-on experiences. They talked about what they were doing and why it was important. She believed the current model of learning theories and concepts in a classroom prior to being in the field was backwards and was less impactful on student learning. Learning in a culturally traditional way with culture infused in the lessons was an approach she believed would help students make those connections between the abstract and concrete.

“I do not care what equipment you are using, if you take them out in the field and you work with them like the grandmas did and I am sure that grandpas did the same thing, it is just that my experience was grandmas. You take them out there and you do hands-on and you are out there, you are doing it and you are talking and sharing it. Then you come in the classroom and you kind of ease into why you did this, what is the significance of this. I think that is backwards when you teach them, oh the environment is this, the environment is that. You have these parameters and these parameters to measure. Then you take them out in the field and then you go measure them. That is backwards. You go out in the field. You look at it you feel it. You touch it. You see what impact it may or may not have. You see what is around you. You look, experience, take it all in, and you have someone there doing it. I think that is the approach I would love to see, because out there when you are making those connections, you bring in that culture that you may or may not have experienced but you bring it in.”

Interviewee 8
Job Preparation
Interviewees described ways to address the need for job preparation as part of the degree program by providing work experience, being more involved with tribal governments, ensuring jobs exist for tribal members upon completion of their degrees, providing access to tribal professionals in the field, and internships.

Interviewee 3 reflected on her own experiences and described having students working in the field of natural resource management as part of their academic preparation. During her experiences as a tribal college faculty member she did not see many opportunities for that to happen, but she saw a value in giving students those experiences and allowing them to become excited by the process.

“When I graduated college I thought I was really well prepared... never forget one of my first duties at my duty station for USDA NRCS was to go out and do field checks and I did not know how to read a map... I did not know what ranges were. I did not know what townships were, what sections were. I guess my classes now, the way I arrange them, from not knowing all those useable things, I just throw them in my classroom. I think that is where tribal colleges really do differ. I believe we do offer more curriculum it just may not be as scientific. Because we realize our people are going right to the workplace... Because 90% of my students stay in or around the reservations, I try to make it a lot more applicable. That’s how I see it differ now... Students actually working in the field while they are going to school. So, that while they are learning this information, there is nothing more exciting than turning around and sharing information. They do not really have an avenue to do that. It is largely discouraged... I would like to make sure students had experience in the field... We just got to start throwing them out there while they are in school.” Interviewee 3

Interviewee 14 suggested tribes should invest their time and resources in developing their own tribal people to fill the roles in their tribal natural resource management. She see this goal being accomplished by tribes developing their own people through the tribal colleges and tribal administration supporting their own tribal members as they pursue and complete their degrees.
“Going in and making time to be with them because we have to grow our own. I was just telling somebody at the tribe that in administration because they are talking about GIS and remote sensing and I said that nobody is coming here. I told them, “We have to grow our own. We have to work with the tribal college. We have to get in there to grow our own and they have to have a job to go into. They may be crappy employees for a while. Out of 10 [who] you hire, you may only have one [who] is good, but that is okay. The other ones when they are done doing what they are doing, they may come back with the knowledge and I straightened out now and make a place for them to come back over and over and over.” We have to grow our own, that is really important.” Interviewee 14

Research
Interviewees also addressed the incorporation of research within the degree programs. They believe research should be student-led and tribally-related. “I would not have even bothered. I would not have even been interested. I would have sought out a different program in which that was valued. I have no interest in just doing research just for the sake of research. If I cannot do something that is going to have a positive impact on my people, my culture, and my children then I am just not even going to bother.” Interviewee 24

The potential impact of having to conduct research without a tribal connection was illustrated by the experiences of Interviewee 5. She had research experiences at her tribal college as an undergraduate and at a non-tribal institution as a graduate student. At her non-tribal institution where she was already disconnected by distance from her tribal community, she struggled with the research, because it was more abstract and did not directly connect to tribal people or lands.

“[The Native students in the lab across campus] all had tribal related projects which I think made it meaningful to them because at the end of the day I am like, I left home. I could have stayed home and got a job and help people there but I left home and I am in this strange place learning all these abstract ideas and the project that I am working on is not going to benefit anybody I left when I came here.” Interviewee 5
Interviewee 9 suggested one way to get Native students involved with research is to enlist them on existing research project with tribes to help them learn about the research process.

“Maybe also projects or potential graduate student projects that are already in place with tribes, where a Native students could come in on a Master’s project that is already set up and learn about research. I think that that would be good if possible.” Interviewee 9

Finances
Interviewees also addressed the consideration of the cost of attendance. They suggest there should be adequate financial resources available for students. One interviewee even suggested the possibility of making the cost of attendance more affordable by offering a sliding scale.

During Interviewee 7’s professional career, he served hundreds of Native STEM students. In addition to his own experiences as a student, his professional experience helped him to see the importance of adequate funding for Native students to be successful in their academic pursuits.

“Financially, I think education is something you cannot put a price tag on. I do understand that people have to pay the bills, too... Having enough financial resources to cover what you need covered, your food, your lodging, your coursework, your tour mission, your books. Here is the thing, and I approach that with the internships that I manage. The only thing that I want my students to focus on is being successful on their projects. When you stop and think about that, you know as well as I, the demographic for most tribal colleges is 29-year-old single mothers with multiple dependents. When you put that against the backdrop of what I just said, the only thing I want that single-mom to worry about is performance in the laboratory or on their project, that means she cannot be worried about gas, she cannot be worried about keeping the lights on, she cannot be worried about putting pampers on her kids, buying food... And that is what I think would be ideal. You take care of all those basic needs, that frees up that single mom or that stepbrother or that uncle. You free up all that stuff, that allows them the freedom now to immerse themselves in the science and explore as children, as students, as they are
supposed to. That I think is the ideal. You take care of the basics so they do not have to worry about it.”

Interviewee 7

While earning his doctorate, Interviewee 12 worked as a staff person supporting Native students at his institution. Upon earning his Ph.D, he became a faculty member and continued to work with Native students. He saw the importance of making higher education attainable through making it affordable. He suggested one way to support Native student was through adjusting the cost of attendance by implementing a sliding scale to alleviate some of the financial burden.

“Having the program be affordable so the students do not go into debt. It is really important to not go into debt when you are going into natural resource or environmental field because you are not going to make a lot of money. So I think that having it be realistically affordable and maybe tailored to students’ needs in terms of affordability, the idea of a sliding scale sort of makes sense to me so that every student is experiencing the financial burden of their academics similarly, does not need to be 100% paid for because I think there is value in having to have a job that generates income to help pay for some of your expenses and it diversifies your experience for one thing. If you work in a coffee shop or work in a library I think it is something different that you are doing that gets your mind off of the academics for a while. Not that the ideal program has to be 100% funded program but it would need to be affordable. The affordability is important.” Interviewee 12

Extracurricular Activities

Interviewees described ways participation in extracurricular activities could be beneficial to the academic experiences of American Indian students. Conversely, one interviewee made the suggestion American Indian students should not be put onto all diversity committees or given other extra duties, which might become a hardship for the student. Institutions with Native students can benefit from suggesting student participation in appropriate student groups, but also being aware of overextending their students. Native students should be aware of the value of participation in extracurricular activities, but also consider what they need to do to maintain a healthy balance while pursuing their degrees.
Interviewee 11 benefited greatly from her participation in extracurricular activities, which helped her to earn scholarships while pursuing her degrees. She encouraged Native students to maintain their grades and participate in extracurricular activities to help them also earn scholarships to pay for their educations.

“Getting involved with the school extracurricular activity really helps with getting your finances; financial aid, scholarships. My last tribal college, the financial aid office was chasing me down to apply for scholarships. You have to be active in those kinds of things and keep your grades up above a 3.0. It is easy to get all those scholarships.” Interviewee 11

As a graduate student Interviewee 14 saw a need for a mentoring program for Native students and began to serve as a mentor. Her service affected her own academic progress. She suggested institutions should not rely on students mentoring other students, but instead invest in hiring someone to do that job. Also, she suggested professors should be aware other forms of service can also be a hardship on students and negatively impact their academic progress.

“I think a mentor program is really important. One of the things I have learned recently is it is really hard on faculty and on me. When I started the mentoring program, that set me back... Stop making the students do that... Hire somebody to do that position. Quit making your students do that, your job. You do that.... If you are a professor, do not put them on all the diversity committees. Have some of the other people on those committees.” Interviewee 14

Support Systems
Interviewees described an ideal degree program as having a support system in place for Native students. The support systems they described had culturally supportive people, Native or diverse staff and faculty, mentors, and community.

Culturally supportive people at the institution
Interviewees described the importance of having culturally supportive people who could understand cultural differences and be flexible to address students’ needs. For example, the worst part of Interviewee 2’s academic experiences included feeling like he was expected to sacrifice his cultural rules to be successful. For
future Native students, Interviewee 2 envisioned the program would provide alternate ways to make students successful while respecting their tribal rules and ethics. Part of making this happen would be through having faculty recognize and understand differences in cultures to avoid implementing expectations that were not culturally congruent.

“The only thing I would change, which would be tough to do, is to have faculty understand the differences in cultures. There are different rules and ethics that different indigenous people have. I always thought that having to communicate in groups like that and then be punished for following my traditional rules, I actually struggled with that... I did the best I could to instruct professors, but they still required that you do that. Not to get out of it but to give different avenues to provide alternate means to make the student successful... That is just the thing I struggled with, having to break my own cultural rules because it gave me anxiety and I would not do so well.” Interviewee 2

Interviewee 10’s academic experience was very rigid with professors and scientists who had been trained in western science and could not view the world from a different perspective. As a graduate student, she observed her fellow Native graduate students had a similar view of the world as her, which was at a broader level and sought the interconnections. She suggested their should be space made for diverse perspectives included in the sciences.

“With academia... you are put on the Western science path and you have these guidelines and it is very strict and very specific. To go outside those lines, I think a lot of the scientists and professors are uncomfortable with that. Whereas, I saw this with tribal grad students, we tend to think of things instead of that microcosms in a very specific level, at a broader level of how things are interconnected and how all the pieces fit together. I think a lot of the professors are trained in the western science, scientific methodology, and that is where you go. You do not really have room for these outside factors for anything other than the traditional western science methodology.” Interviewee 10
Native Staff and faculty
Interviewees placed value on having Native staff and faculty, as well as faculty from other indigenous communities from other countries. Some interviewees emphasized the need for any Native faculty, more Native faculty, or even went further to say there should be entirely Native staff. Institutions whose goal is to support American Indian students should consider increasing the number of Native staff and faculty. As American Indians continue to graduate with advanced degrees, they can also support future generations of Native students by either teaching in institutions of higher education or collaborating with institutions through guest lecturing, presenting their research, collaborating with Native students on research, or serving on Native graduate students’ committees.

Interviewee 10 suggested some of her academic experiences could have been enriched by having access to more Native faculty. When she envisioned an ideal degree program, she described having more Native faculty with diverse backgrounds and experiences. She believed Native faculty would be better able to connect with Native students.

“In a perfect world I would think that, based on my own experiences and some of the things that I felt like I was lacking on the cultural side of things. It would be great to have more Native faculty or Native professors from all tribes everywhere with diverse backgrounds. Having professors [who] also were not on the straight and narrow track, has life experience, and has an understanding of coming from a tribal background and how that makes things different. I think that would go a long way in their teaching styles with kids and their ability to connect with tribal students.” Interviewee 10

Interviewee 27 envisioned the ideal degree program as having all Native American staff who would have experience in the STEM fields. “Preferably or ideally the staff would be all Native American; would have experience both with research and teaching in STEM fields.” Interviewee 27

Mentors
Interviewees described the importance of people with the specific role of guiding or mentoring students through their academic programs and in their research. In addition to including Native faculty, Interviewee 12
envisioned including elders as teachers and mentors to help students understand the priorities and roles of tribal knowledges.

“[The ideal degree program] would teach students about those priorities and the role of tribal knowledges better than any mainstream programs that I am aware of and it would have Native instructors, ideally more than one instructor who is comfortable and confident in their cultural identity. Then you have got the elder role and they are a teacher and I think that having one or multiple elders involved is ideal. But then because of the system is the way it is you would also want faculty members and that could be those elders but it may not. Different types of mentors and instructors [who] are Native men and women.” Interviewee 12

Interviewee 20 described feeling frustrated by the influence of non-Native perspectives being given to tribal leadership regarding tribal natural resource management. He believed it would be beneficial for Native students to have experiences like internships with charismatic tribal professionals. He further suggested Native professionals who have earned their degrees and have experience in the field have a duty to serve as mentors to Native students.

“That was very frustrating for me to see many of the professional opinions and direction was that paths that we take were being done by non-natives, very western American perspectives, motivated scientists making decisions and professional opinions regarding natural resources and passing those on to tribal leadership... I think what would have inspired me would have been to have met some charismatic tribal professionals. I do not know if it would be something of lining up an internship because that is pretty difficult... I feel like it is something that we as individuals who have gone out into the western academic world and been successful, and are now technical professionals within the tribal organization, I do feel like we do have some level of duty to interact with the students either before they enter the college arena or as they’re in the college arena, and even after they exit the college arena.” Interviewee 20
Community
Interviewees placed a value on having a support system or sense of community among students that also includes faculty, elders, and community members.

Interviewee 19 was a faculty member at a tribal college for thirteen years and observed how his Native students responded to having a one-on-one personal relationship with him. He had valued the relationship he had with his mentor while he was pursuing his education and modeled his interactions with students after that relationship. In an ideal academic experience, Native students would have someone who understood and valued them.

“Development of that one-to-one personal relationship is critical, I think with Native students in particular. I think it is important for all students. I think it is just emphasized more at a tribal college and yes, I understand that it is a numbers game, but the fact of the matter is my mentor at the [university I attended] I am sure had hundreds of students who wanted his attention but I never felt that when I was with him... Understanding a student as an individual and valuing them and valuing who they are and where they are from I believe is critical to Native students in terms of establishing a relationship with them. It says: “I know enough about who you are to take the time to let you know, I know where you are from. I know something about your people and your land. I know something about your issues. You matter to me.” That is what a lot of the students that I have seen respond positively to.” Interviewee 19

Interviewee 24 envisioned students engaging with tribal communities and diverse cultures about their relationships with the natural world to encourage holistic learning.

“I would definitely involve whole communities. It would involve those students talking to elders and other community members about their relationship with the land, the four-legged relatives, and the plant nation, with water, talking to people about that—about their relationships. And then, talking about how that relationship has manifested itself over time and then that student working with people
from other cultures also to learn the same things and then incorporating that into something that is really holistic and informative and good.” Interviewee 24

Tribal Colleges and Universities
Interviewees believed tribal colleges are already providing good experiences for American Indians pursuing natural resource-related degrees and are good models for other institutions of higher education to learn from and utilize for building their own tribal capacities.

After earning her degree at a non-tribal institution, Interviewee 3 worked for two different tribal colleges where she engaged in and witnessed the quality of work they were achieving. “I think it would build upon what we currently have at tribal colleges. I think there are some really rockstar efforts going on.” Interviewee 3

After earning degrees at a tribal college and then a non-tribal institution, Interviewee 5 was of the opinion that her tribal college prepared student adequately and sometimes better than other kinds of institutions.

“I also think that my tribal college is perfectly fine the way it is, because you give students practical experience and lab experience and a degree at the same time so they have more skills than someone from undergrad, more practical work skills than someone who just did their undergrad in biology in a big university is going to have.” Interviewee 5

Other
Some of the other things interviewees described as important to an ideal educational experience for American Indians pursuing natural resource degrees that did not fit well in any of the above groups. For example, Interviewee 16 appreciated being able to attend a tribal college on his own reservation. Interviewee 11 had several suggestions specifically for future students like making sure to communicate with their instructors if they were struggling. Interviewee 9 believed having access to counseling services would be beneficial for students. Interviewee 12 described the value of having flexibility to allow students to go home when needed to deal with issues that might arise. Interviewee 28 believed it is valuable to interact with faculty outside the
classroom. Lastly, Interviewee 14 believed some of the hoops that exist need to be eliminated that stop Native students from pursuing their doctorate degrees.

Summary
Interviewees created a vision of an ideal degree program and academic experiences for American Indians in the field of natural resources based on their wealth of academic and professional experiences. Their vision described who would oversee the program, tribal values that are important to maintain and strengthen for Native student retention, what students should be taught from western science and tribal knowledge systems, how they should be taught, what students should be taught to prepare them for the workforce, how to support Native students’ research, financial considerations, extracurricular activities, support systems on and off campus, the valuable models at Tribal Colleges and Universities, as well as some other general suggestions.

An ideal degree program and academic experiences for American Indians pursuing degrees in the field of natural resources will include Native people in the planning, implementation, and oversight. Not all departments have Native staff or faculty who could be involved in those processes. One interviewee suggested an oversight committee could include be developed by including Native staff and faculty from across campus who will help to guide the recruitment and retention strategies the program implemented.

The ideal program will keep Native students connected to Native people and culture. Students will be financially supported to travel to participate in tribal ceremonies. Visiting other tribal communities to learn about their natural resource issues will be built into the program.

The coursework in the ideal program will be rigorous in the sciences. It will include experiential learning opportunities, hands-on learning, fieldwork, learning how to use equipment, preparation for working in various agencies, small group discussions, focus on creativity and problem-solving. The coursework will also include cultural content: tribal perspectives, tribal knowledge and TEK, contemporary tribal natural resource issues (case studies), and tribal languages. Teaching methods will be informed by tribal culture.
Students in the ideal program will be provided with job preparation experiences. For example, the program will be more involved with tribal governments to help faculty be more responsive to their needs. Students will also have access to tribal professionals working in the field of natural resource management. The program will also facilitate students gaining work experience, as well as participating in internships.

Student led research will also be part of the ideal program. The research will also focus on tribal natural resource issues and could also include tribal knowledge. The ideal degree program will also be financially affordable for Native students. There will be financial resources provided for students. One strategy to make the cost of attendance more affordable will be by offering a sliding scale for tuition for Native students in the program.

Participation in extracurricular activities will also be part of the ideal program. Participating in extracurricular activities and student groups provide students the opportunity to build their resumes, as well as learn about potential funding opportunities. Participation also helps students to build a stronger and broader support network. Program directors and advisors will be cautious about overburdening Native students by putting them on too many committees or councils on campus. Extracurricular activities have the potential to both benefit as well as burden students as they pursue their degrees. The goal will be to make sure an appropriate balance is maintained for each student.

In addition to the experiences in the classrooms, labs, and field, the ideal program will also foster the people who are part of the students’ support systems. Departments and institutions will have staff and faculty who are aware of tribal culture and can help to support Native students in appropriate ways. There will be Native staff and faculty in the ideal degree program. The ideal degree program will also help develop mentoring opportunities for students. The ideal program will also draw upon and support the broader community that are important to students’ success (e.g., student groups or cohorts, tribal communities, and students’ families).

Several Tribal Colleges and Universities offer degree programs in natural resource related fields and could serve as models.
Students in the ideal program will be encouraged to communicate with their instructors outside of class or when they are struggling. Students will have access to counseling services. Students will have flexibility within their program to go home to deal with issues that might arise.

The ideal program will provide quality education and experiences for Native students. It will be guided by tribal values. The coursework will be rigorous and incorporate tribal knowledge and issues. The teaching methods will be informed by tribal culture, include experiential learning, and give students practical knowledge they will need when they enter the workforce. Native staff and faculty will be in the department supporting Native students. Students will do research that is relevant and informative to tribes. The program will be affordable. There will be a strong support system for Native students as they work through their degree program. Native students will also be encouraged to develop relationships with their instructors. In addition to their academic progress, students’ mental health and personal lives will also be supported through access to counseling services and flexibility to deal with personal issues if they arise. The program will be holistic and address the needs of the students’ academic and cultural needs.

There are many opportunities for diverse people to be part of the support system for American Indians as they pursue their degrees in natural resource programs.

There is a need for more Native people to be included in the educational process. Native youth need to have interactions with science professionals. There needs to be more Native faculty. There is a need for more Native staff or staff who are better prepared for serving Native students. Native professionals in the field of natural resources need to be engaged by serving as mentors to Native youth and Native students. Tribes need to be willing to invest in their tribal colleges, as well as make sure there are jobs available for their tribal people who do earn degrees. Tribal communities and tribal elders need to be included in the learning and teaching process.

A Native person should be able to look at this system (of creating more Native natural resource professionals) and be able to see Native people throughout it, see Native knowledge systems included, see Native values and
teaching methods included. Most current systems of education for Native students look very white and do not allow Native students to see themselves or their culture reflected suggesting their culture is not recognized or valued and should be abandoned.

Talking Circle Analysis
Three individuals participated in a talking circle. All the participants were currently seeking degrees in the field of natural resources at the same institution. Only one of the participants was also an interviewee. The talking circle participants were asked to describe facilitators and barriers to their experiences in higher education.

Participant 1
Participant 1 (P1) was a 27 year old male who was pursuing his Bachelor’s degree. He had transferred to his current institution from another non-tribal institution in his state.

Facilitators
P1 described six facilitators to his experiences in higher education while pursuing a degree in the field of natural resources: proximity to home and family, his roommates, physical activity, various opportunities, the Native American Center on his campus, and having an engaged advisor.

The majority and most impactful factors that contributed positively to P1’s academic journey were primarily in his personal life and were not related to things his institutions had the capacity to influence. P1 had transferred from a different non-tribal institution, which was further from his home community to his current university that was closer. The first positive factor P2 described was his proximity to home. He valued being able to go home to see family periodically or have family come to visit him (excerpts P1.1 and P1.2). P1 also described the impact his roommates had on his academic performance. When he had questionable roommates, his grades suffered, but when he had stable roommates he experienced academic success (excerpt P1.3). Lastly, when describing factors within his personal life and within his control, P1 expressed his desire to have a healthy and intelligent mind, as well as a healthy body. Being able to participate in physical activity on his campus and in his community contributed to taking his mind off his homework and things he was dealing with in class (excerpt P1.6).
At P1’s institutions, there were three factors that contributed positively to his academic journey. P1 had various opportunities present themselves that included study abroad experiences, internships, and summer jobs (excerpt P1.4). P1 also had issues with the advising he was receiving and ended up changing advisors. His new advisor was more engaged in his progress, which was helpful for him (excerpt P1.10). P1 also described the positive impact of the Native American Center on his campus as being a place for Native students to call their own (excerpt P1.5).

**Challenges**

P1 described six challenges to his experiences in higher education while pursuing his degree in the field of natural resources: proximity to home, his roommates, challenges with financial aid, being expected to be a spokesperson for all Native people in his classes, a poor advisor, and lack of cultural understanding by his institution.

The first two negative factors for P1 were within his personal life and could not be directly addressed by his institution. Being close to family was significant for P1. A difference between P1’s two institutions was the distance from his home community. His prior institution was farther from his home, which made seeing family more challenging, which negatively impacted his academic experiences (excerpt P1.1). P1 acknowledged the impact of his living situation and his roommates had on his academic performance meaning when he had poor roommates his grades suffered. As described in the positive factors, when P1 was able to have more stable roommates, his academic performance was positively affected (excerpt P1.3).

The other negative factors P1 described were directly tied to his institutions and have the potential of being addressed by them. At both of the institutions P1 attended, he needed to file financial aid appeals. Both institutions had different policies regarding the appeal process. At his first institution, he had the opportunity to submit multiple appeals and eventually he was funded. At his current institution, he was limited to one financial aid appeal. His appeal was denied without any explanation. He ended up paying out of pocket the following semester, which was frustrating and made him feel like quitting (excerpt P1.7). Once P1 made it into the classroom, he still faced additional challenges. When issues related to Native Americans would be
discussed in classes where he was the only Native student, he found himself expected to be the spokesperson for all Native people, which was another difficult issue for him (excerpt P1.8). When P1 transferred from his previous institution with a poor GPA, his new advisor asked if he had any learning disabilities. This bothered him immensely. He felt the person did not have an understanding of potential cultural barriers he may have faced by entering college (excerpt P1.9). After that experience he realized he needed a different advisor and was able to find someone who was really engaged, which relieved that challenge he had encountered (excerpt P1.10). The combination of the various experiences he had with financial aid, advising, and in the classroom contributed to him feeling like there was “a lack of understanding, a lack of reciprocity between institutions, and especially universities and understanding of the culture back home on the reservation.”

There is the possibility P1 may have been on academic suspension, but that was not disclosed in the discussion. If that was the circumstance, the new advisor’s question regarding possible learning disabilities would likely have been asked to help them understand what had contributed to P1’s academic difficulties.

*Take home messages*

Being closer to home and family, as well as his living situation (i.e., roommates) were factors that influenced P1’s academic experiences. When he was closer to home and family, and had stable roommates, he was academically successful. When he was further from home and had poorer quality roommates, his grades suffered. Those are factors the institutions he attended could not directly influence, but were results of P1’s choices of institution and roommates.

Factors at P1’s institutions that either positively or negatively impacted his academic experiences were a mix of things that were within his college, direct experiences with staff or faculty, campus climate, or related to his cultural identity as a Native person. The combination of being aware various kinds of opportunities existed and he should be on the lookout for them, being tied into a network where opportunities were circulated, and the right circumstances contributed to P1 being able to access opportunities like study abroad experiences, internships, and employment opportunities. P1 also had the experience of having a poor advisor and an engaged advisor. The one advisor had made comments P1 related to their perceptions about Native students.
and lack of cultural understanding. P1 also experienced multiple barriers of navigating the financial aid system, which did not directly relate to his Indian identity or culture. Conversely, he did find himself being expected to be the spokesperson for Native issues in his classes where he was the only Native person, which made him uneasy. Based on all of his experiences, he believed his university lacked some of the understandings it needed to serve him better.

P1’s experiences suggest Native students with strong ties to their families and home communities should consider choosing to attend institutions that allow them to return home relatively easily. Native students should also be conscious of finding the appropriate balance in their personal life like having a good, stable living situation and keeping a healthy body through activity.

P1’s experiences in his institutions also suggest Native students should be willing to advocate for themselves when things are not going smoothly, learn the processes (i.e., financial aid), be willing to work with their advisors understand and address causes of academic difficulties, and seek community on their campus (i.e., find spaces on campus where Native students gather like a Native American Center). P1 was able to address some of his challenges and barriers he encountered through his persistence and willingness to advocate for himself.

P1’s experiences suggest institutions should work with their staff and faculty to encourage their interactions with students is positive and culturally appropriate. This can be addressed through in-service trainings, policies, and incentives. For example, in the classroom, Native students should not be made to feel like they are the spokesperson for all Native issues. Some of P1’s experiences also suggest the institutions should examine their campus climate, especially from Native student perspectives.

Participant 2
Participant 2 (P2) was a 60 year old female who was pursuing her Bachelor’s degree. She had attended the institution in the mid-1970s and returned to college after a nineteen year career.
Facilitators

P2 described eight facilitators to her experiences in higher education while pursuing a degree in the field of natural resources: a good advisor; supportive staff, administrators, and instructors in her college; family at her institution and in her community; various opportunities; self-advocacy; feeling like her department is family or another home; feeling safe; helping other Native students; and proving to others that she is capable of earning her degree.

There were several aspects of P2’s institution and college that contributed positively to her academic experiences. The first positive factor P2 acknowledged was her academic advisor who had helped her overcome some of the hurdles she encountered once she returned to college (excerpt P2.1). In addition to her academic advisor, P2 described other staff and administrators within her college as supportive of her (excerpt P2.2). After hearing P1 describe some of the opportunities he had encountered, P2 agreed she also appreciated opportunities like study abroad experiences (excerpt P2.4). Lastly, P2 also acknowledged having family at her institution, and in her current community was important for her, especially since her mother had passed on and she did not get back to her tribal home much (excerpt P2.3).

There were a few internal factors for P2 that positively contributed to her experiences. After experiencing hostility from staff in her financial aid office and other places on campus, P2 learned to self-advocate, which was helpful in changing the service she was receiving (excerpt P2.5). P2 acknowledged her college was beginning to feel like a family to her or another home and suggests she was beginning to feel comfortable and a sense of belonging there (excerpt P2.6). P2 had experienced traumas outside of college that caused her to develop PTSD, so when she began to feel supported by her college and various people on campus she eventually felt safe. Having a sense of safety was important to her considering her past traumas (excerpt P2.7). After feeling safe, learning how to successfully navigate various parts of the higher education system, P2 felt it was important for her to help other Native students by either advocating for them or helping them in other ways (excerpts P2.8, P2.9, and P2.10). Lastly, one of the motivations for P2 has been the desire to show others she is capable of earning her degree in the field of study she loves (excerpt P2.11).
Challenges

P2 described ten challenges to her experiences in higher education while pursuing her degree in the field of natural resources: her age, financial aid process and staff, a low GPA from her initial years in college, nineteen year break in her college career, having a learning disability, prejudice, staff in the disability support services, post-traumatic stress disorder, an unsupportive professor, and being female.

P2 considered her age as her biggest barrier. She had attended college as a young woman but did not earn her degree. She worked for a number of years before returning to college and found a lot had changed. She often found she was the oldest person in her classes (excerpt P2.12). When P2 first attended college she left school because she was in an accident, which negatively affected her GPA and has caused her to be on academic suspension since returning (excerpts P2.14 and P2.15). After leaving college because of her accident, P2 worked for a number of years before returning to college. The years away from the classroom added to her challenges because she had to relearn how to study (excerpt P2.16).

Adding to the challenge of being out of the classroom for a number of years was the fact that P2 has a learning disability related to PTSD from previous traumas (excerpts P2.17 and P2.18). While accessing services through her university’s disability services program, P2 was treated poorly. A recent incident was so traumatic it caused her to be hospitalized and miss some exams (excerpts P2.19 and P2.20). Due to her previous academic performance, P2 also experienced challenges with financial aid, which were exacerbated by being treated poorly by the financial aid office staff (excerpts P2.8 and P2.13). It was not only staff who treated P2 in ways that were negative to her academic pursuits, but one professor also yelled at her and left her a message about making accommodations for other students. After she received his message, she did not return to his class (excerpt P2.21). For a staff member or faculty who is unaware of the kinds of historical traumas and contemporary individual traumas many Native people suffer, the reactions by P2 may be unexpected or considered rude. After discussing all her hardships and challenges, P2 also added being female as another factor that negatively academic pursuits (excerpt P2.22).
Take home messages

At P2’s institution, the positive factors were all various supportive people (i.e., a good advisor, staff, administrators, faculty, and family on campus). Similar to P1, she also appreciated having access to various kinds of opportunities through her institution.

P2 had multiple challenges, some of which she had been able to overcome because of internal strengths. P2 was adept at self-advocating when she encountered challenges or barriers and learned how to navigate various services on campus. She also used any perceived doubts others might have about her abilities to motivate her to prove to them she could succeed. Once she felt supported by people on campus and in her college, she was able to feel a sense of safety, which was significant for her.

It is also important to recognize and acknowledge P2’s sense of reciprocity towards other Native students. She took what she had learned about higher education based on all her challenges and used that knowledge to help other Native students avoid pitfalls and challenges she encountered or help them overcome those challenges.

Some of the challenges P2 encountered were personal and not related to her institutions. Some of those challenges were things she had control over and others were not things she or other could address. Her age and gender were two factors that could not be changed. She found herself the oldest person in some of her classes. She took a break from her academic pursuits to have a career. That break caused her to forget how to study. College also changed and she had to learn the new systems. Her previous academic experiences left her with a poor GPA that continued to cause challenges for her once she returned to school. Adding to the complexity of her personal challenges was previous traumas she had experienced that caused her to develop PTSD and a learning disability.

At P2’s institution, she encountered people she found unhelpful, unsupportive, and belligerent leaving her the feeling she needed to respond in kind, and afterward feeling like she could not return to class or the situation. Their negative interactions with and treatment of P2 were also magnified by her PTSD. This suggests a need for
staff and faculty to have professional development opportunities to learn about historical trauma, identifying and addressing PTSD, and other kinds of trauma Native students may endure.

P2’s experiences suggest even with deep and complex challenges (both internal and at the institution), Native students can be successful. P2 had a sense of determination that helped to motivate her. P2 was also resilient when she encountered challenges. She learned how to navigate various systems and practiced self-advocacy. She also was willing to advocate for other Native students and share what she had learned about successfully navigating higher education.

Similar to P1’s experiences, P2’s experiences also suggest university personnel needs to be more consistent about how they treat students. Students should feel safe and supported, not treated with hostility.

Participant 3
Participant 3 (P3) was a 26 year old male who was pursuing his Master’s degree. He had earned his Bachelor’s degree at the same institution in a different field.

Facilitators
P3 described six facilitators to his experiences in higher education while pursuing his degree in the field of natural resources: supportive faculty, good advising, people who understood where he came from and who he was, financial support for his Master’s degree, field courses, and the Native American Center on his campus.

Several people positively contributed to P3’s academic journey. P3 credited supportive faculty as a big factor to his retention in college and the successes in his academic pursuits (excerpt P3.1). While he was an undergraduate, he experienced mediocre advising, but the advising he received during his Master’s program was far superior (excerpt P3.2). One quality of the people at his institution who supported him was their understanding of where he came from and who he was (excerpt P3.3). He also credited his academic success as a graduate student to funding he had received (excerpt P3.4).

One aspect of his coursework was especially significant in P3’s academic successes, having courses take place in the field. His field courses were some of the most valuable classes he took. The motivated him (excerpt
P3.9). Lastly, P3 appreciated having a Native American Studies building on his campus. He felt it was a place where Native students could gather, a space that helped him to feel grounded, and a place where he could find people with similar experiences to his (excerpt P3.10).

Challenges
P3 described four challenges to his experiences in higher education while pursuing his degree in the field of natural resources: being away from family, losing a scholarship, not knowing who could provide advocacy for him, and an unengaged advisor.

The first challenge P3 described was being away from his family. He acknowledged his home community was not far from his college community, but he still felt like he would like to see his family more than he that he had been able to see them (excerpt P3.5). He also shared a financial hardship he had experienced when he lost a scholarship due to missing the renewal deadline and had his appeal denied (excerpt P3.6). While he was attempting to see if there was any recourse he did not know enough about the system to know what his options were or who were potential advocates to help support in through the process (excerpt P3.7). Lastly, P3 had some negative experiences with the advising he received during his undergraduate program. He was a double major in Environmental Studies and Native American Studies, which meant he had two different advisors. His advisor in Environmental Studies was uninterested in him or his interests. In comparison, his advisor in Native American Studies was very engaged, interested in him and his interests, and helped him in other ways. He eventually changed his Environmental Studies advisor, but it was not much better (excerpt P3.8).

Take home messages
Unlike the other participants, all of the positive factors P3 described were directly related to his institution. He had supportive people on his campus. He had financial support. He had engaging and exciting classes in the field. His campus had a Native American Center.

The first challenge P3 described was being away from his family and was not something his institution could directly address. Another challenge P3 experienced was losing a scholarship because he was not aware or did
not recall the renewal deadline and not having any recourse or advocates for how to handle once the deadline had passed. P3 also was challenged by having poor and mediocre advising in one of his undergraduate degree programs, which was in contrast to the excellent advising he received in his other undergraduate and graduate degree programs.

P3’s experiences suggest interactions with engaged and supportive staff and faculty is important to student success. Adequate funding is another important factor for student success. The ways courses are taught can also impact students’ learning and engagement.

Take to heart messages
Each section within this chapter ended with concluding thoughts and recommendations for the readers’ consideration. This last section contains messages I want the readers to pause and think about in deep and sincere ways. Please take these messages to heart. People students come into contact with have a significant impact on students’ experiences. When staff, faculty, and administrators are supportive, engaged, sincerely care about their students, and have a level of cultural understanding students have better academic experiences. When those same people are hostile, uninterested, or do not care about the students’ needs, students struggle, which can threaten their persistence.

These Native students all valued being able to see their family members. They all also described valuing being able to interact with other Native students on their campus, either at their Native American Center or in the capacity of helping each other. Those are significant relationships for Native students. Although institutions cannot easily help students stay connected to their families and home communities, institutions can provide adequate space on their campus for Native students to gather like a Native American Center.

To future Native students, you might encounter challenges and barriers on campus, you might bring your own challenges with you when you enter higher education, but you can succeed. These Native students found ways to overcome many challenges and barriers. They learned how to navigate the systems. They found supportive
people. They advocated for themselves. They did not quit. Be conscientious in your choices. Seek help when you need it. We want you to succeed.

Chapter 5: Conclusion

This research sought to explore the academic experiences of Native Americans pursuing degrees in natural resource-related fields with special focus on tribal culture. Based on my personal experiences as a Native person pursuing higher education, my experiences in traditional learning environments, and my role as an educator, I believed tribal culture did and does influence Native peoples’ academic journeys. The results of this research suggest being Native American strongly influences many aspects of academic journey in the field of natural resources, both positively and negatively. There was a diversity in the ways and extent to which tribal culture impacted interviewees’ journeys.

After analyzing the individual interviews, my advisor and I discussed the similarities and differences across the interviews. We looked for patterns and themes. There was a diversity of experiences represented by the interviewees. To illustrate the diversity across the spectrum, I developed an organizing system that categorized the interviews by level of ease or challenge the interviewees had experienced during their academic journeys. Then after developing the spectrum of ease or challenge, I further categorized the interviewees by themes within each category. For some of the interviewees who were classified in the smoother end of the spectrum, it appeared that their experiences were somewhat the luck of the draw. Some interviewees grew up in very supportive homes with both their parents, had an intact tribal culture, and had strong support systems within their institutions. Other interviewees had experienced more challenge in their academic pursuits partially due to factors they could not control.
Some of the factors influencing the degree of challenge Native interviewees could have been similar for non-Native students. For example, non-Native college students also experience needing additional time to find their path. Some non-Native college students can also have strong support systems, which positively contribute to their smooth progression through their academic journeys.

However, there were also factors that were distinctively experienced by American Indians. One example is the prevalence of interviewees who were motivated to earn their degrees with the intention of going back to their home communities to contribute to their tribes. For example, being employed by their tribes while pursuing their degrees contributed positively to interviewees’ experiences by helping with funding and giving them professional experience within their tribal government. The professional experiences with their tribes helped to teach them how to navigate the tribal system, which can be very different from state or federal agencies. On the other end of the spectrum of experiences, a few interviewees had a more challenging time while pursuing their degrees, because their academic preparation did not include experiences that prepared them for working for tribes.

If institutions are not able to help either to facilitate those kinds of experiences or to bring in tribal natural resource managers to their classes, one way they can at least introduce their students to some of the differences is through exposing them to literature that introduces their students to the tribal natural resource system. For example, Mr. Mervyn Tano, President of the International Institute for Indigenous Resource Management, wrote “On Becoming A Tribal Natural Resource Manager: Some Friendly Advice from a Long-Term Observer,” to help prepare natural resource managers for the new challenges they will encounter by working for tribes. The article defines the various roles of the tribal government in relation to their management of their natural resources; describes the various roles the natural resource manager will possibly be expected to fulfill; and final words of encouragement to maintain and nurture connections that will help them in their roles.
The largest theme evident across interviews was directly related to interviewees’ having Indian identities. For example, the most challenging end of the spectrum of experiences included interviewees’ experiences with overt racism and failures of the academic system to support them adequately. I found all people within the Challenging level experienced forms of racism, whether overt, subtle, or institutional racism. Some interviewees were able to use aspects of their tribal cultures to help them overcome those conflicts. On the Smooth level, people who had work experience with their tribes during their academic experiences learned skills they needed once they entered the workforce that they would not have acquired only through their degree programs. They did not experience much, if any, racism or microaggressions within their degree program or during their student employment for their tribes, which may have been related to their work being in a tribal organization. People in the Intermediate level struggled with the lack of diversity within their degree programs and often times being the “only one” which contributed to feelings of isolation. There were less experiences of overt racism, but an increase in the number of subtle or microaggressions they experienced. The following sections will discuss the interviewees’ and participants’ experiences through a Native American identity and cultural lens.

**Cultural Tensions**

Students experienced different kinds of cultural tensions such as when communicating, having academic expectations that went against their cultural teachings or beliefs, and tensions related to how they were perceived and treated by others because of their Indian identity. Students described being challenged by the cultural difference in communication styles. For example, the language used in western science differed from the language used in their tribal systems, which was a reflection of how those systems interacted with the natural world (e.g., part of the natural world or having dominion over the natural world). Some Native people call all living organisms, and sometimes other elements within nature, their relatives or Nations. Through this belief system, horses would be considered four-legged relatives or plants would be members of the Plant Nation. Students who held this belief system did not agree with labeling their relatives as natural resources because it was not reflective of their beliefs and disconnected them from their relations.
Not only did the language used in their academic fields create cultural tension, the ways they were expected to communicate sometimes created cultural tension for students. Some students were encouraged to engage in scientific discourse that seemed aggressive and at times condescending, which was counter to the ways they had been taught to communicate with others. Asking excessive questions and testing other’s knowledge can be considered disrespectful in Native culture, yet was valued in the scientific community. This is an example of how some students felt they were expected to break their cultural rules to meet be academically successful. Some students felt they have to abandon the parts of themselves that make them Native to meet academic expectations and be perceived as academically successful because there was no room in their academic experiences to incorporate Native knowledge or diverse perspectives. They found it more challenging to have a strong Indian identity and be successful by western standards.

Sometimes students experienced microaggressions related to the lack of diversity within their degree programs. For example, by being a Native person attending non-tribal schools students often experienced tensions from being the only person of color, which created feelings of loneliness, isolation, and a lacked sense of belonging for some students. They sometimes found themselves tokenized and expected to be the spokesperson or representative for all Native peoples. An additional layer of complexity for some interviewees on top of being a Native person in a predominantly white institution or being the only person of color in their degree program, was being a Native woman. There was often a lack of people of color at their institutions and within their degree programs, but Native women also had the added complexity of being some of the only females in their degree programs. Other times, interviewees experienced overt racism like other students telling racist jokes, which often led to them having much more challenging experiences.

Students had to choose how respond or react to microaggressions or overt racism. Some chose to ignore or not respond to microaggressions or acts of racism because of fear of retaliation, wanting to focus only on their studies, or for other reasons they did not articulate. Others chose to respond to such acts by confronting and constructively addressing the acts. In those situations, students were met sometimes met with acknowledgement and reconciliation and other times were dismissed. Occasionally students reacted with Red
Rage or reacted to perceived bias that may not have actually existed. As institutions work towards creating more inclusive environments by eradicating racism and addressing implicit bias, they provide opportunities for their staff and faculty to become more culturally aware. Institutions may also provide opportunities for Native students, as well as other underrepresented or similarly oppressed students, to learn more about how to identify and address microaggressions and racism in productive ways. For example, one opportunity could be through workshops or trainings for students. Another way for institutions to help prepare and hopefully empower students is through fostering student groups by providing them resources and space. Student groups can function as one source of lateral support for students. For example, students can help other students process their experiences and determine if either microaggressions or acts of racism were committed and suggest productive responses. Investing in Native student groups may help prepare Native students for navigating higher education and can also send the message to Native students that the institution values them and their culture. Both institutions and students need to have the ability to identify microaggressions and acts of racism. Institutions need to have mechanisms in place to address such acts. Students need to be aware of those mechanisms and be empowered to take action against such actions.

Teaching and learning in diverse knowledge systems

The first knowledge systems many interviewees described were informed by tribal values and practices. Some of the ways knowledge was perpetuated in those systems could also be found in educational knowledge systems, both tribal and non-tribal, to which many interviewees had positive responses. These effective teaching methods include learning opportunities that are hands-on, experiential, relevant, and practical. Cajete (1999) describes the traditional Native American mechanism of experiential learning as “the most basic and the most holistic type of human learning, and is a part, in one form or another, of every Native American context and mechanism of learning.” Barlow (2015) also described traditional Native American education as an active process and relevant.
One way people learn is by a combination of being shown, being told, and practicing. The teaching of traditional ways of harvesting or gathering food exemplifies those teaching methods, as well as illustrates how this traditional teaching and learning is highly contextualized. Cajete (1999) suggests this highly contextualized learning situation meant the lessons occurred when and where was the most opportune and appropriate, which contrasts with many schools in Western society.

Cajete’s suggestion was reflected in recommendations by my interviewees. For example, Interviewee 10 felt that she and other Native students had a strong affinity for and ‘just understood’ ecology, which she attributed to how families teach their children through traditional practices that focused on the relationship among elements in nature. She shared how her father had taught her when they were out hunting. The experiential lessons taught more than just how to track and kill a specific animal, but also taught her how to be aware and observant of other elements within her environment and to consider what those observations meant for the future. Later, she realized he was teaching her the same traditional cultural teaching methods his family had taught him and she plans to use to teach her children.

College courses that implement similar teaching methods of hands-on and experiential learning opportunities about relationships, as well as relevant and practical knowledge appear to be some of the most engaging and meaningful courses interviewees experienced. For example, Interviewee 12 described how he first found his path in the field of natural resources through classes at non-tribal schools that occurred outdoors and had that combination of hands-on and experiential learning. He became engaged and excited about his program of study. This enthusiasm helped him to become a better student. This was significant for him because prior to those experiences, he floundered through school. Once he found the path that fit him, he continued on and eventually earned his Ph.D. So, although the content Interviewee 12’s instructors taught did not make direct connections with his culture, the methods they employed were similar to traditional teaching methods and were successful in reaching him.
In addition to describing what teaching methods worked for them as students, interviewees also described what did not work for them as students and how that impacted their teaching practices. Interviewee 3 earned her Bachelor’s degree at a non-tribal university and found herself ill prepared in her first job. She felt she had a solid scientific education but it was lacking some of the practical skills she needed in the workforce. When she became a professor at a tribal college, she made sure to prepare her students with the practical skills they would need. She saw this as one of the things tribal colleges valued in their preparation of their students. She was not teaching them about their culture, but was preparing her students in ways that were important by her tribe’s and tribal college’s values, giving them relevant and practical job skills.

Similarly, Interviewee 24 went through all of her educational preparation with very little acknowledgement of Native people and Native knowledge. When she became a professor at a tribal college, she incorporated cultural considerations and knowledge into her classes. This helped to make her courses relevant to her Native students, as well as impact future generations of Native people.

Interviewee 24’s teaching philosophy also works to strengthen Native American students’ self-image by showing them through education that their culture is valued (Cajete 1999). Through her teaching philosophy, Interviewee 24 made a conscious decision to restore indigenous knowledge into the tribal education system, which was lacking in her own experiences. By bringing back the knowledges and perspectives of Native and indigenous people that had once been excluded from most formal education systems, Interviewee 24 is restoring and reclaiming that space in academia and the educational system for her students and community.

**Best research**

Of interviewees who were involved with research, most had better experiences with research that was meaningful that is, dealt with actual problems rather than abstract or with conclusions that were not directly applicable to them, relevant to their tribes or tribal culture, or were close or connected to their home. Gervais et al. (in press) observed few of their contributors were able to conduct their graduate research with tribes. Within my research, some interviewees said they would not have completed their research or their degrees if
their research did not have those attributes. For example, when I asked Interviewee 24 if she would have completed her graduate degrees if her research was not directly related to her tribal culture, she was adamant she would have pursued her research and degrees elsewhere because having that focus was that important to her.

Her desire to have research that directly impacted her tribal people, her culture, and her children is an example of what Kuokkanen (2007) described as scholarly “give back” Indigenous scholars and students desire their research to be relevant and helpful to indigenous communities’ needs and concerns. Previous scholars, researchers, and anthropologists had benefitted from indigenous communities without giving anything back to those communities, which would have been the respectful way of being in a reciprocal relationship (Lee and Munson 2017). The practice of reciprocity or giving back to Native communities can be considered part of decolonizing colonial structures to restore indigenous communities (Kuokkanen 2007) or part of reclaiming indigenous culture as an act of resistance (Lee and Munson 2017).

Some interviewees believe they did not need to have those same connections to tribes or tribal culture within their research and that they would have still completed their research and degrees regardless. But most interviewees sought connection with tribal culture in their academic journey in other ways. For example, when asked the same question, Interviewee 12 believed he would have completed his graduate research in his discipline without a specific cultural component. He then went on to suggest how he would have still included Native people in his academic journey by supporting them. He also acknowledged having a tribal emphasis in his research helped to keep his research interesting and progressing forward. The work he has done since earning his degree still involves and impacts Native students and communities and is testament to his fulfilment of his responsibilities to his Native and indigenous communities through his privileged status in academia.

*Preparation for working in tribal system*
Interviewees who had a desire to work for tribes, on tribal issues, or with tribal people needed knowledge and skills beyond what most of their academic preparation had taught them. Rules, regulations, and protocols often differ on tribal land versus non-tribal land, which requires people or entities engaged with tribal natural resource research should develop an understanding of those differences (Gervais et al. in press). Some interviewees were fortunate to have employment, internships, or research experiences with tribes that helped them to develop some of the those skills and acquire knowledge for navigating political systems of working for tribes or tribal natural resource issues (i.e., land status, government to government consultation, or impacts of tribal sovereignty on management practices).

Non-tribal institutions most often provided adequate academic rigor in their course content, but did not have flexibility within their degree plans to allow Native students to take courses in Native American studies which could have been beneficial to their career goals. Interviewee 17 grew up on the reservation with an understanding of differences in resource management based on jurisdiction, but at his non-tribal institutions, this was not discussed. He felt this was a weakness of his program and other large institutions.

The occurrence of program curricula lacking reference to tribal natural resource management and policy was also reported by Gervais et al. (in press). They suggested natural resource curricula could incorporate teachings of indigenous models of sustainability such as the Menominee Nation Sustainable Development Institute’s Model.

By attending her tribal college for her undergraduate degree, Interviewee 5 felt better prepared for working with tribes in her current position, because they had taught her the factors she would need to consider when working in tribal natural resource management. She observed other institutions were less likely to prepare their students for the kinds of considerations they would need to understand when working with tribes. She was taught tribal natural resource management needs to consider the tribal leadership, stakeholders (tribal membership), and tribal stories and values in their management decisions.
Safety

Safety was an issue confronted by many interviewees. They sometimes found themselves vulnerable to violence, emotional or physical harm, and racism. Interviewees also expressed not feeling safe to reveal their Native American identity or views, to request their worldviews be integral parts of their research, or safe to speak out against racism. Some of these issues of safety can be addressed through the development and enforcement of policies regarding the prevention of and response to acts of racism and violence. It is also relevant to consider some of the other kinds of safety issues interviews faced like cultural safety. The concept of cultural safety was first developed by indigenous Maori nurses and builds on transcultural nursing to include “an examination of power inequities, individual and institutional discrimination, and the dynamics of health care relations in the postcolonial context” (Anderson et al. 2003). Wood and Schwass’s (1993) model of cultural safety describes “3 Ds” (Diminish, Demean, Disempower) of culturally unsafe practices and “3 Rs” (Recognize, Respect, Rights) of culturally safe practices. As the concept of cultural safety is applied to higher education, it is helpful to think of cultural safety as the outcome of a continuing process of cultural awareness and cultural sensitivity (Ramsden 1992). In efforts to foster culturally safe environments and practices, institutions and individuals (i.e., staff and faculty who directly serve students) will need to begin by developing their cultural awareness and practicing cultural sensitivity. As they engage in this process, it is an opportunity to participate in implicit bias training to identify and address individual and collective biases. Research has shown implicit bias training can improve implicit associations about women in STEM (Jackson et al. 2014) and may promote institutional change regarding gender equity (Carnes et al. 2012).

Methodological observations

The majority of the data were collected through interviews with the remaining data collected through a Talking Circle. There were differences in the kind of insight collected through those two strategies. Interviews were conducted one at a time, were guided by the interview guide, and relied on the interaction between the interviewer and interviewee. This method provided individual knowledge. In the Talking Circle, there were three participants. In addition to the three prompts, participants were also able to address comments of other
participants. Sometimes participants’ comments would remind the others of things they had forgotten. They were able to agree on experiences or describe how their experiences differed, which was different than when there was only one interviewee. This appeared to add to the richness of data collected during the Talking Circle in comparison to interviews and to some degree include collective knowledge. Talking Circles were developed through methods “recorded through the stories, songs and ceremonies as mechanisms for inclusion into the transfer of knowledge... and identifying of shared goals and desired outcomes for community” (Aseron et al. 2013). Taking those origins into consideration, it is understandable how the data from the Talking Circle might be considered collective knowledge or at least knowledge shared with the intention of benefitting Native students.

One way the collection of data was stronger through the interviews was through the opportunity to probe further or ask for clarification, which was not possible in the way the Talking Circles were completed. Perhaps any additional questions that arose during the Talking Circle could have been asked afterwards.

If I were to continue exploring some of the questions within this research, I would continue to collect qualitative data. However, I would expand on the methods of data collection. There were aspects of in-depth interviews I appreciated like the ability to have more of an individual’s story. The Talking Circle allowed for some level of interaction and engagement among the participants that was beneficial and added to the richness of the data. I appreciated the way Wilson and Kovach engaged in multiple conversations with individuals with their research and would in the future incorporate that strategy into my research.

**Recommendations**

It is highly likely most, if not all institutions of higher learning in the United States are located on land that was once either inhabited or used by the continent’s first residents, American Indians. It is a disservice to generations of American citizens and students of the American education system that there has not been a greater inclusion of American Indian history, philosophy, and perspectives in the curriculum. Inclusion of history, philosophy, and perspectives, as well as Native students and faculty within institutions of higher
education and natural resource degree programs is paramount for the preparation of future natural resource professionals and policy-makers. The following is a bulleted list of recommendations.

**Natural Resource Degree-offering Institutions**

- **Valuing and supporting diversity**

  If an institution intends on increasing its Native student population, it should examine its campus climate. The campus should value diversity and practice tolerance. These values and practices should be reflected in the institution’s policies and guiding documents, as well as its professional development opportunities for staff and faculty. For example, all syllabi could be required to include a diversity and inclusion statement.

  If the campus is devoid of diversity, it should actively seek to increase diversity and inclusion. It is important to increase the diversity of people, but it is equally important to make sure those people have a seat at the table and are included as one of the voices being heard.

- **Native planning, implementation, and oversight committee**

  It is imperative to include Native people in the processes of planning and developing support programs and degree programs for Native students. Actively listen to their input based on their perspectives and experiences. Strive to be inclusive in the initial planning processes with the goal of best serving Native students.

- **Strong presence of Native students**

  Institutions need to be committed to providing adequate resources in both recruitment and retention of Native students. It has been noted, some institutions actively recruit Native students but fail to provide any services or resources to retain them once they have fulfilled their recruitment goals. They should actively recruit Native students with the goal of building a cohort. The retention of Native students increases when they have a community of other Native students on their campus, in their degree programs, and in their classes. They function as a community of
peers who share similar lived experiences and can provide each other support and encouragement.

- Lab with many Native students

Lab experience for undergraduates may be more or less important depending on the particular degree within the field of natural resources. For both undergraduate and graduate students, having a lab with several Native students can be beneficial. This community can foster mentoring opportunities within the group.

- Affordability

Ensuring attendance is affordable for Native students can initially serve in recruitment efforts, but is also significant in the retention of Native students. Institutions can consider a sliding scale for their tuition costs for Native students; offer tuition waivers; specifically target Native students in the scholarships they offer; and seek additional funding (internally and externally) for work-study, research experiences for undergraduates, and research or teaching assistantships for graduate students. Native students often are non-traditional students with dependents and extended family they help support.

- Keep Native students connected to Native people and culture

It is crucial for non-tribal institutions to maintain or build those connections for their Native students. Having a community of Native students on campus and seeing their culture and history within the curriculum are ways to meet this goal at the institution. Native students also need to return to their home communities several times a year for funerals and to participate in cultural ceremonies. Working with the students to make accommodations and providing financial assistance are ways institutions can facilitate those connections to Native students’ communities and culture.

- Emotional support
Individual staff, faculty, and administrators who engage with Native students have the power to provide emotional support to Native students by actively listening to students. Institutions can also provide support through offering counseling services to students.

- **Provide space for Native students**
  
  Space for Native students to gather can aid in the cultivation of a sense of community for Native students. Such spaces can also serve as a reminder to the broader campus community that the institution has Native students and values them.

- **Funding for native student activities**
  
  Providing financial resources to support Native student activities such as student groups or participation in conferences can increase retention.

- **More Native faculty**
  
  Increasing the number of Native faculty can positively impact the recruitment of Native students. Native faculty can serve as role models for Native students. All students, Native and non-Native, can benefit from this increased diversity on their campus. Having more Native faculty can increase the diversity of perspectives within a program’s faculty and curriculum. To increase the number of Native faculty, institutions may need targeted hires.

- **Forms of evaluation for Native faculty**
  
  After hiring Native faculty, institutions need to assess their forms of faculty evaluation and tenure process. Native faculty may engage in different activities than traditional faculty members, which may suggest a need for a new form of evaluation. Native faculty are more likely to engage in research with tribal communities and use community participatory research. Some tribes may request research findings remain within the tribe and not be published. This may negatively impact Native faculty who are evaluated through the most common standards within academia and are expected to work by the philosophy of ‘publish or perish’. Native faculty may also be more
engaged in service activities related to serving and supporting Native students and/or Native communities, which may not be as valued or even counted towards their service.

- Flexibility within degree plans
  One strategy to incorporate Native knowledge, perspectives, history, or issues is through creating more flexibility within the degree program requirements to allow taking elective courses through the Native American Studies program. Another strategy is to offer elective courses that include topics like TEK.

- Providing work experience
  Students who gained work experience while pursuing their degrees were able to earn additional income, as well as learn skills vital for their future careers. Institutions should cultivate and foster relationships with natural resource management agencies and non-profit organizations with the intention of developing employment opportunities with those agencies for their Native students. One example that has been beneficial for Native students has been cooperative education agreements with their tribal natural resource departments. The tribe funded part of their education, employed them while they were students, and then hired them upon completion of their degrees. The students were provided with financial resources, work experience, and careers in their field of study upon graduating.

- Require tribal knowledge and perspectives within curricula
  Most TCUs include tribal knowledge within all their courses. Non-tribal institutions could enforce a similar requirement within their curricula. If institutions do not have Native faculty, this initiative may require professional development opportunities for current faculty. Fortunately, there is a growing body of literature for faculty to draw from. Also, institutions or faculty members can also seek assistance within their institutions through Native American Studies programs or from other institutions like neighboring TCUs.

Faculty members and other educators
• Better college and career preparation by high schools

High school teachers and counselors can significantly impact Native students’ beliefs about their ability to attend college, identifying a career path, and college preparedness. Some Native students receive superior support in these early stages from their teachers and counselors. Some Native students receive little to no support while in high school. Teachers and counselors who provided the best support were the ones who took the time to develop relationships with their Native students, saw their potential and encouraged them, provided advice regarding high school coursework, assisted with college and financial aid applications, and believed in their Native students’ future successes.

• Incorporate tribal knowledge, perspectives, history, and issues into courses

As previously mentioned, some degree plans are so rigid they do not allow electives in Native American Studies courses. Teachers and faculty can incorporate tribal content within their courses. Some ways they can better prepare themselves to incorporate such content are: they can seek professional development opportunities, build relationships with Native colleagues, utilize the expertise of their Native American Studies department, seek assistance from TCUs, or bring in guest speakers such as tribal natural resource professionals. Such content will be beneficial for all students, Native and non-Native.

○ Examples of tribal content or topics

- Tribal perspectives and knowledge: tribal guest speakers like tribal professionals, tribal elders, and Native resource users
- Tribal sovereignty
- Federal policies with tribes
- TEK
- Tribal language, history, and culture
- Contemporary tribal natural resource issues like case studies
- Tribal languages
- Fieldwork on a reservation

- Rigorous coursework
  
  Native students appreciated rigorous coursework, especially as undergraduates preparing for graduate school.

- Adopt teaching methods that are congruent with tribal educational practices
  
  - Experiential and hands-on learning opportunities: Native students described enjoying learning, as well as learning better when they were taught through experiential and hands-on activities.
  
  - Fieldwork: Native students described the importance of being in the field because it was a different learning environment, it connected them with nature, and it was experiential.
  
  - Practical skills: Native students valued learning how to use equipment or take measurements that they would need to learn for their future careers. They valued those practical skills and knowledge within their academic preparation.

  - Small group discussion
  
  - Creativity and problem-solving development

- Job preparation
  
  - Native students appreciated job preparation within their academic experiences. For example, discussion about the difference for working for various agencies (like federal, state, tribal, international, or non-profits). This can be in the form of internships, discussion in courses, or guest speakers.

- Research opportunities
  
  - Student led research
  
  - Tribally focused research or with culturally significant species
  
  - Collaborative research with tribal agencies
  
  - Tribal knowledge within research
• **Evaluate your implicit bias.**

Has your implicit bias potentially caused hardships for Native students? Some ways you can avoid microaggressions or create a more comfortable learning environment for Native students includes avoiding romanticizing your native students, do not expect one Native student to speak for or represent all Native people, and participate in implicit bias training. Seek to understand the causes of Red Rage and identify strategies to diffuse the reaction if you recognize its early stages.

• **Student engagement with tribal governments**

Native students who intend on working for or with tribes will need special knowledge and skills to effectively manage tribal natural resources and successfully navigate tribal political systems. Native students should be given opportunities to engage with tribal governments as part of their academic preparation. This could be in the form of internships, independent studies, or summer employment, for example. If institutions were to take the lead on such an initiative, this would require institutions to develop and maintain good working relationships with tribes. Such engagement could also be sought through students’ efforts rather than relying on the institution.

The changes in curriculum can begin in individual classrooms of faculty members who have a desire to better prepare their students for the diversity of perspectives they may encounter in the field of stakeholders they will serve. Non-Native faculty can strengthen their capacity for teaching Native students, as well as creating an inclusive environment by taking trainings and professional development opportunities at their institutions or through their professional organizations. Non-Native faculty can become allies for people with diverse identities by creating space within their classrooms and degree programs by identifying and calling attention to microaggressions, stereotypes, and misinformation.

Institutions of higher education should actively assess and adapt their diversity and inclusion policies and plans to help create a more welcoming climate. Non-tribal institutions can build or strengthen existing relationships with tribal colleges and universities. These relationships can be mutually beneficial by increasing the capacity
of the tribal colleges, as well as demonstrating to non-tribal institutions successful strategies for recruiting and retaining Native students.

**Future research**

As undergraduates, interviewees experienced different needs and encountered different hardships as graduate students. With the low representation of American Indians earning graduate degrees, it would be advisable to conduct further research to gain an understanding of the issues they face and identify effective strategies to support their academic success.

American Indian students pursuing degrees in the field of natural resources described finding themselves “the only” one in their classes and degree programs. The other students were often white males. For female students, this feeling of being “the only” one was further magnified by the lack of other females. Future research could address how to recruit and support American Indians, and especially Native women into degree programs in the natural resources.

Interviewees described a broad range of hardships that included highly stressful situations, traumas, and addiction. A few interviewees overcame those hardships through attending counseling. Future research could identify the level at which those hardships contribute to American Indian students stopping out or not completing their degrees and then suggest effective strategies to overcome those hardships and increase persistence.

**Final thoughts**

This research was pursued with the hopes of our future generations of Native scholars and our relationships with the land and our other relatives (two-legged, four-legged, many legged, no-legged, those in the sky, those in the water, and the green beings). In closing, I acknowledge the sacrifices of our ancestors. The last thoughts I share are specifically for those yet to make this academic journey.
To our dear Native children and future generations:

I visited with successful Native people who chose to pursue degrees in the field of natural resources. They shared their stories with me about how they found their path, how they chose their colleges, their academic journeys, and their perspectives on their jobs. From their stories, there some words of wisdom and encouragement for you.

Your tribal culture can contribute to your connections to the land and resources through your traditional practices like hunting and other lifeways practices. Tribal languages contain the values and worldview of your tribe.

You can go to college. Your ancestors made a way for you to earn a formal education. Maybe none of your family has earned degrees like interviewee 24. Maybe your school teacher told you that you cannot go to college. Maybe you have never thought about going to college like other interviewees, but know that is something you can pursue and you can be successful.

We each have a purpose. Paying attention to your passions and your interests will help you to find your purpose. Sometimes it takes a while to find your path and purpose, but do not get frustrated and keep trying different things. It took some interviewees 13, 16, and 25, years and career changes to find their path. One thing you can do while you are in school, take career interest inventories or surveys that can help point you in the right direction. You will find a fit. Be persistent.

There will be people throughout your journey in life who can help you. There were many people throughout the interviewees’ journeys who helped them along the way. Watch for those people in your life. Older people have a lot of experiences to share. Be thoughtful about what they are saying. Almost all interviewees had tribal elders, as well as older colleagues who were supportive people on their journeys. For example, a mentoring
program called Shideezhi was developed by a Navajo woman to provide a support network for young American Indian girls, which gave guidance, college counseling, and inspiration for success (Miranda 2013).

Be willing to take advantage of the opportunities that present themselves. For example, participating in summer camps like Interviewee 5 or afterschool activities like Interviewee 20 were influential in choosing their paths. Keep your ears open for those kinds of opportunities.

The field of natural resources might be a good career path for you. Ask yourself a few questions. Do you like to be outdoors? Some interviewees spent a lot of time outdoors hunting, fishing, gathering other foods, and recreating. Do you “get” or enjoy science or ecology? Do you feel connected to the land? The field of natural resources might be your passion.

You can succeed academically. It is good if you can get your education close to home because of the additional support family and community can offer but do not let distance deter you from your pursuits. Going away from home can give you different perspectives about life in general, and also about the things you are learning. Interviewee 5 earned her Bachelor’s degree at her tribal college and then her Master’s degree at a non-tribal university in another state. She benefitted from the specialized support at her tribal college. She experienced feeling homesick at her last institution, but believed the experience away from home helped to broaden her perspectives. Where you grow up will probably be different from where you go to college. Do not allow others to make you feel less than worthy. Your ancestors sacrificed a lot for you to have all these opportunities.

As you go through your elementary and secondary education, be aware of teachers or staff members who encourage you or who are open to answering questions. Like with some of my interviewees, these might be your science teachers and your guidance counselors, but as with other interviewees they might also be other teachers, staff members, or even people within your community. Start searching for the various kinds of scholarships and educational grants that are available. Ask for help with how to find that information and how to complete applications. Funding is an important part of your academic pursuits. There are people who can help you with that process.
In closing, be courageous. You belong to this land. There is a place for you in the story of our people.
Appendix A: Quotation Tables

Idiographic Quote Tables

**Table 5**

This table is for the idiographic analysis of Interviewee 5. It is comprised of excerpts from Interviewee 5 that describe her experiences during her pursuit of multiple degrees in natural resource-related fields.

<table>
<thead>
<tr>
<th>T5-1</th>
<th>I think they could tell that I was just super nerdy at a very young age. I got a microscope and my sisters got Barbies and dolls. I had that thing for four years and had it with me every day.</th>
</tr>
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<tbody>
<tr>
<td>T5-2</td>
<td>Just doing other stuff with my dad that was not related to his work like fishing and hunting. My mom’s dad is from Alaska. I just remember him having a hankering for fish, needing to have fish, needing to have fish so bad we would go to the SuperOne in town and buy cheap tins of sardines... Then these times when he would have this really bad hankering for something that he used to have at home when he was a kid before he ever left, it was interesting to watch. Having fish and the ability to fish and to harvest fish, and to take them home satisfies this intrinsic thing that he lost.</td>
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<td>T5-3</td>
<td>My dad has been in natural resources forever. I have watched him do that... It seemed like a good fit.</td>
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<td>T5-4</td>
<td>I watched my dad in his job in natural resources. He is the division manager now. But he was not in that job always. I watched him for a long time doing that job and got to tag along. It was really great to see how he was doing things to help everybody.</td>
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<tr>
<td>T5-5</td>
<td>I think he has worked for them for twenty-five years. That was definitely it.</td>
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<tr>
<td>T5-6</td>
<td>When we would have breaks or during the summer he was still working, we would be with my dad at work. He probably would have been more like... project manager... He was one of those types of people prior to where he is now.</td>
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<tr>
<td>T5-7</td>
<td>Another thing that probably got me, my other exposure was, I got a microscope when I was in the third grade that was my best friend. I carried it around in my backpack every day.</td>
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<td>T5-8</td>
<td>I think one of the big things that ever first got me interested in anything was the [community natural resources and culture camp], when we did that. Part of it was because we had to go to it for school but also because I would be with my dad when they were setting it up, when people were practicing, and when they were taking it down... Being with my dad at work and getting to know the guys he worked with and hearing from them and wanting to know more about what it was that they did. I think that was probably the only thing that they did at school that ever got us exposed to that was the [community natural resources and culture camp].</td>
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<tr>
<td>T5-9</td>
<td>I want to say it has been going on since I was at least in third grade... third through the sixth grade would be when I attended. Then I went back in middle school as a ninth grader, and in high school as a volunteer to help run the camp. Then I... started going back two years ago to be a teacher and have a station. I did the full cycle through it.</td>
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<td>T5-10</td>
<td>It happens for a week. It is during the spring. We have it down on the river. There [are] about ten stations. The stations are teepees set up... [it] looks like a camp. Then the material you are going to instruct at your station... The fisheries guys will have a station where they teach fish identification... It is the laws and regulations, then some biology, and then culture all tied in together... It has gotten bigger every year. The kids come, they come early in the morning and they spend all day there and they go through everything... Maybe a few people from the state but then the rest of them are tribal people who work for the tribe... We have elders there to say a prayer in the</td>
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morning... They have elders there telling stories. A lot of people from the community just go down there and hang out, too.

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<tr>
<th>T5-11</th>
<th>I did go to some PACE camps, which was the tribe had NASA money to do camps a few weeks out at Wolf Bay. Some of that was natural resources-related. I did those every year they ever did those. Those were really good.</th>
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<tbody>
<tr>
<td>T5-12</td>
<td>Jim Bradfield teaches at [our tribal college] now. He was my teacher when I was in fourth and fifth grade. He was going at a very science-based mind... I think it was probably his emphasis area... When I had this microscope, I would take samples all the time and then take it into class. We would mess around with it. I obviously did not have any friends except this microscope, it was my best friend. He tried to make a link... with water quality, when I was in fourth and fifth grade with my teacher, with my dad, with the PACE camps, with the [community natural resources and culture camp].</td>
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<tr>
<td>T5-13</td>
<td>When I was working for Jim at the environmental chem lab we were doing projects in partnerships with the tribe and the state raptor research institute so I think it was natural resource related. Then I spent a few weeks when I was working for Jim I worked at a national park working as a fisheries tech but Jim was paying my wages. Then I have worked for the federal agency for the last three years as an environmental protection specialist and now the fish and wildlife project manager. The only time I was doing stuff that was not natural resources related is... the RA I was on while I was in grad school. But I was working for the federal agency at that time.</td>
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<td>T5-14</td>
<td>They gave us the shitty end of the stick when they put us on the rez but we have this little tiny bit of flexibility where we can exercise our rights in those types of environmental arenas. Let us capitalize on that and do something with that.... I would like to think that, especially after I had Aron, my son, everything is so environmentally degraded elsewhere, and that a lot of places that are still pristine is where Indians are, right? Tribal lands. I would like it to continue to be like that thirty years from now so that when Aron is an adult he can do things like I did with my dad. If I want to see that happen then that is what I need to do, go in to help somebody to make sure it is still there when he gets grown up. Other people are not thinking about that. Like this global warming, if I do this someday my grandkids are not going to be able to do this... We do not ever separate out those kinds of things. We want everything to be there for everybody forever. A lot of people do not think that far ahead... We should do something now so that I can help make sure it is still there later.</td>
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<tr>
<td>T5-15</td>
<td>We could go hunting but environmental work, too. I would like to think that forty years from now there will be bison in the national park that Aron could go and hunt... Those types of things, we could go get traditional plants... Things like that, I want Aron to be able to do that. Nobody gets trained to be able to protect those things that knows about them now, then they are not going to be there later.</td>
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<td>T5-16</td>
<td>I definitely think that Indians, even the words domestic stewards of the United States, I mean we are supposed to be sovereign but we are domestic stewards. We still have that, a lot more flexibility like a state does... But because we are a sovereign domestic steward, we have the ability to say... say I want to have an air quality program. I have the ability as a tribe to make that program more stringent than a state does. It is a huge advantage. Especially given that tribal people have a genetic make-up that predisposes them to some of the exposures and stuff in the environment... Indians and the land are so interrelated and tied together that I do not think you can pull them apart. Everything we do is there and vice versa. We use so much of that and because people are so much...Indians are so much more of a subsistence people. And it is not just subsistence for the dietary nutritional stuff. There is this whole other cultural</td>
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sustenance realm that directly links back to my ability to be a healthy, functioning person that because of all that, you cannot separate Indians from natural resources. It only made sense to go to school for that. Because if the air is better, the water is better, people can use it more for when they are doing traditional practices. If they can do that, they are healthier. They feel better and then when they are healthier and feel better the entire community is healthier and feels better. That definitely made me want to go to school.

I was at my tribal college from 2005 to 2007 in the general science Associate’s program. Then that fall I was at the local university in their pharmacy program. I was in that for a year. Then they stopped that. Then I went back to my tribal college. I was in the terrestrial science program. I did the two-year program. Then I did the four-year program with Lyle. Then I went to a larger university out west from 2010 to June of 2012. That was a Masters in Environmental Toxicology program.

At my tribal college it was the only four-year science program that was not nursing... I was in the... when I was there doing my first two year degree and then my second, I was working in the lab with Jim Stevens, the Chem lab. It was all environmental-type projects. It was the best program there that had the work that I was interested in.

I went to my tribal college because I had Aron and I was a non-traditional student. I was really young. I was supporting both of us on our own and I could not afford to go anywhere else. Not that it... but it was a good choice at the same time because it accommodated non-traditional students way better than anywhere else would. I knew a lot of people there. My family was there. It made me feel comfortable there. I could go there and feel I could do well at whatever it was I was going to try to do and know there was a support structure there. There were going to be other young women in the same position as I was with kids going to school, or other Indian people there, or just people sharing the same interests with you because they grew up the same way. Not feeling I had to be a different person to go somewhere else.

Then went back to my tribal college. I actually was not in school for a while and then Jim got me a job to get me into the lab. And then he tricked me into going back to school but I wanted to keep working there. But it was nice being back for the same reasons: people in the same place, in the same situation, grew up the same way, same identity.

When I was in school, because I do not look Indian, but when it was in my application... When I finished undergrad I applied to I want to say seven different grad programs and they were all Ph.D programs, and one was a public health program so it was an MPH... So, they were all good schools. When I went to do interviews that was the first thing they all wanted to talk about when they were considering my application. I was not ever, “I am a tribal dadada...” I was like, “here is things I like that make me want to...” and of course I was describing those types of things but I did not ever out right come out and say I am an Indian and I want to go to school. But it came up.

At the larger university out west, in particular, it came up before they would ever let me go to have an interview. It was, “Well, we have had an Indian student here before and she did not thrive. We are reluctant to have another one.” And they said “another one,” and that made me think “another one of us?” I really had to sell myself to them because I was Indian because they did not think I was going to do well there. Which is totally what happened. That was the school I really wanted to go to because I had been following this one woman around at all these research conferences and really liked what she was doing. I really wanted to work with her and be in her lab. She was at the larger university out west. I applied to their Ph.D program and they are the only school that did not admit me to their Ph.D program. They admitted me to the Master’s
program after we had that whole, “Well, you are an Indian and we do not know if we want to have one,” type of thing.

<p>| T5-23 | But then also [be]cause there was the one woman I really wanted to work with. I liked what she did but I also liked her because she had had projects with tribes. She was not tribal but she had done that... I felt she had a track record and she could show me. And because if I was at the larger university out west it seemed it would be so easy to work with Indians because it was so close. So that is why I went there. |
| T5-24 | Then I went to the larger university out west, mostly [be]cause they pissed me off when they said “we do not want another one of you there”. It just made me feel I had to go there to show them we are not what they think we are. |
| T5-25 | My tribal college, it was really good. All your peers are Indian. |
| T5-26 | I feel at a large institution you get folks who do not have the practical experience but who are the intellectual expert but have not actually applied it or you get the people who have applied a lot of it but do not have intellectual part of it. At my tribal college, it is more people who did go to school for it and then have done it for a while and then now are teaching. I feel they knew what is going on, they knew at the end of the day when everybody graduated this was the type of stuff people would probably gonna be doing—so that is what we are going to get you ready for. |
| T5-27 | I think everything at my tribal college was a lot more real-life applicable and at the larger university out west it was not necessarily. |
| T5-28 | Jim was definitely trying to find what was the need in the community that we can work towards fixing. He was wanting to find out what the tribe thought that they needed. Then the federal agency, we talked about how we are trying to incorporate the tribe’s method for how they plant this one particular plant... We try to have the tribal affair liaisons interact with the tribe, tribe to government level. We are giving them the respect that they should be giving them, given our status. I think that the only thing we do that is very concrete that I could point to for sure that is very documented, that we have been doing for a long time that would incorporate the cultural practices is the stuff we have to do for NAGPRA and... historical resources. |
| T5-29 | We get to dictate. They are not thinking maybe about how well this is how the tribe is doing things, how they want to continue to do things. We dictate what they can do with our funding. It is a natural resources program. I am just thinking about that one little section but not how all the puzzle pieces fit together for everybody else on the other end. I think I definitely have that ability to do that now. Having been in those places and both types of instructions in school. It is like, we are going to come up with some sort of culture system to measure our exposures to a specific chemical or something but then, thinking about how do you actually relay that to people who are impacted by that chemical on a daily basis... What they think of everything at my tribal college is like, “Well, we are doing all this but what else? Because you have to think about how does the tribe connect with the tribal council and how does the tribe connect with all its members and how does that all feed back to all the stories that we learned about: where we came from, where we want to go and all that type of stuff.” You are taught to think about so many different things at my tribal college and maybe not so much at the other institutions. I can still think about all those other things, and try to in what I do now. |
| T5-30 | Whereas at my tribal college, its strong point is you are in an area where you are specialized and you have the tools and you can move in any directions with in natural resources. You are not so restricted and confined. I think I could get a lot more jobs with the Bachelor’s degree I have from my tribal college than I can with my Master’s degree from the larger university out west because my Master’s from the larger |</p>
<table>
<thead>
<tr>
<th>T5-31</th>
<th>University out west is so specialized, if that makes sense.</th>
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<tr>
<td>T5-32</td>
<td>You actually have your advisor there all the time that you can get to them.</td>
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<tr>
<td>T5-33</td>
<td>My tribal college, Lyle and Britt were right there. They were very plugged in to what I was doing. They knew how I was doing in all of my classes. They were my instructor in my classes sometimes but they were very plugged into my progress and making sure I was getting finished.</td>
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<td>T5-34</td>
<td>I think the best part was the actually being in the lab and being able to do things you can at my tribal college. An undergrad at Duke is going to have to fight for all four years while they are in school to get a spot in the lab to be able to do lab work because there are so many students and they have so much going on. And they are so constrained for resources. But at my tribal college it was the exact opposite, we have all these resources now we need to have people come in and students to come in and use them. That was one of the best things about my tribal college.</td>
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<td>T5-35</td>
<td>The flip side to that was when I was ever in any of my p-chem or environmental chemistry classes I was the only one [who] had run any of the equipment and gone out and gotten any samples and doing that component of the research. Nobody else ever had because they had always been in books and paper. So it had its advantages and disadvantages. I had a leg up in the actual application but was maybe a step behind in getting to here are all the formulas and logic and all the stuff with how you end up at that point.</td>
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<tr>
<td>T5-36</td>
<td>Britt would really know some of the plants that are used like this. Then we would go out and see them. She was not able to be like, “this is how you are supposed to harvest them for these practices”. But it was, “this is what they used them for, here is where they are at, here is where they used to be, and here is why they are not here anymore.”</td>
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<td>T5-37</td>
<td>I think a lot of that was because I did get a lot of the practical, hands-on teaching ... You spend a year and a half at my tribal college doing core subjects and getting your building blocks and then it is practical the rest of the time building on the building blocks...</td>
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<td>T5-38</td>
<td>Seeking out of the Indian students [who] were on campus at the larger university out west because they were having similar experiences, a lot of us at the same time. Through camaraderie everybody helps to poke and push each other through. I think it was definitely that and I did use a lot of campus resources like counseling... I did not feel anybody in my group at school understood me and my faculty did not. It was really hard too because people had so many preconceived notions about what Indians were and then if I walked into their office and said, “Hey, I need help,” a lot of the times things I might have been sharing may have just been reaffirming those stereotypes and notions when in fact the information I was sharing was not related to their beliefs at all. Going through counseling was like a neutral third party person who was not going to judge Indians as a whole if I went there and was talking about my problems. Finding other Indian students on campus and using lot of counseling was how I got through it.</td>
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<td>T5-39</td>
<td>I did really well my first quarter. I got a 4.0. Then I did really well my second and third quarter.</td>
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<td>T5-40</td>
<td>At the larger university out west I had a hard time, not a positive experience at all.</td>
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<td>T5-41</td>
<td>Everybody else thought I was competent enough to do a Ph.D program except for the larger university west. They were the ones [who] came out right off the top with, “We had this Indian student before. She did not thrive. She did not do well. We do not know if we want to have another one.”</td>
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<tr>
<td>T5-41</td>
<td>It was weird going from my community back on the reservation where there is 3,000 people to this large city out west where there is three million people and only being...</td>
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able to see my family at Christmas. I had my son and my younger sister with me at the time. They were having a hard time with it just because there were no Indians. We would see Indians and he would be like, “Oh my God! That is amazing I saw an Indian today.”

But when I was at the larger university out west, the student body was 60,000. I think there was 40 Indians so you automatically become the token related... Everybody wants you to be the token and say everything that represents everybody else. Everybody automatically assumes you have this, I do not know how to explain it, this very intricate, internal connection that other people do not understand with everything that is the environment that you should be able to explain it on a whim to any of them. Or you know, they wait for you to be the token Indian and say something about it during class.

You know most of the people [who] I went to school with had went to Duke, Chapel Hill, or... the big schools that are in Missouri, which are all big schools, not that they have clout but they are bigger. There were not any community college students but the students [who] I did have similarities with were the international students who had a Bachelor’s degree that they had earned at home wherever they were from and then coming to school... Those people were in the same space that Indians are in, like the issues... I do not know if there were a lot of similarities with the kids [who] I was with. It was a very male, came from the same kind of families, same kind of schools, same kinds of training, who had not necessarily had a lot of life experiences but that is the only thing I can think of to describe them right now.

I had done some chemistry and some stats and some stuff like physics and stuff like that at my tribal college before I went to the larger university out west but when I got there I was definitely very behind compared to everybody else... everybody else at the larger university out west who was coming in at the same time I was in the same program had really spent three or four years just doing building blocks not any practical application.

When I was at the larger university out west my advisor would be gone for months at a time in other countries and I could not reach her at all. She was gone in New Zealand and literally had been gone for two and a half months and got back the day before my defense. She had not looked at my slides or anything for the last three months really. It was really hard and it really stressful. My access to her was really reduced.

Then when I was trying to figure out what my thesis project was, it definitely played into it... That is really great but where I come from people are on such a different scale, like natural resource and public health issues that getting into the weeds and minutia is not going to help anybody at home. I am not going to do a project like that. People where I come from, some people drink out of the well with contaminated water. Some people might not even have electricity. That other stuff is great but I do not want to do that. I tried to find a way to get an Indian related project but I could not because of the funding I was on, because I would have had to been self-supported and I could not get it together in time for my thesis. The next best, closest thing we could get to was working with impoverished, migrant farm workers and children in the valley. Which is a closer demographic to people at home, a different community maybe. Then when we got done I tried to make sure I put the lens on, well, what is the implication for tribal people [who] might also be in this reduced access to health care or interacting with the environment. We were looking at pesticide exposure and different neurological assessments with kids but also looking at what are the application patterns and the migration of those pesticides in the environment in that particular area. I was like, “Yeah, I want to do this. But I want to think about the nearby...
tribal nation, too. And I want to make sure that they have this information when we are done with it. I had just happened to meet some of those people at school because the whole fisheries program is their tribal people at the larger university out west. It is like using them to help me get the information there to people there where it might be useful.

When I was in a biochem class or a molecular tox class, I had to take a lot of chemistry, pollution, and p-chem classes when I was at the larger university out west. It is this very analytical... It was a lot more, here is the logic and the steps and the knowledge behind what you are doing. There was not that clear link of how you take it and apply it.

It was hard to be able to remember and keep all those pieces of information because I was not ever able to flip them up to a higher level to see why this is going to be useful. I think it probably impacted it that way. I had to try a lot harder. Another thing that really got me was I had instructors [who] were not from the United States. When you are on the rez, you never hear anybody, well, you might but you rarely encounter somebody [who] is from Europe or from China or from India. And I had instructors like that. There was a language barrier coming from such a geographically isolated place where people do not talk like that. That made it hard to be able to listen and decipher and then learn and then remember.

Ninety percent of the students I went to class with were upper class people from New York or Michigan, who had never, could not understand anything. Really frustrating.

Then when I got there the graduate program manager was this batshit crazy lady. But this one particular woman, the crazy lady, called me into her office. “You are not doing well. You are the poorest student in our program, but I can understand why because look at what we have done to your people.” It was like, “What do you mean? What you have done to us people?” That was her way of reasoning it. She signed me up for Alcoholics Anonymous on campus. Did not ever think to ask if I drink, because I do not. She just automatically assumed the problems I was having were due to the fact that I was an alcoholic and signed me up. She even took it upon herself to sign my sister up who was in no way affiliated with the larger university out west. She did this with the other Indian student [who] was in the department... I had to deal with this stuff with this lady for two years. She would bring me to her office and make me call the mental health clinic and sign up for visits and tell them all the problems I was having in front of her. And was just automatically assumed it was because I was Indian that I was having all these problems.

Then automatically assumed it was because I had drinking problems and other stuff. It was crazy. Really impacted my classes.

When my grandma died... Francis and some other people in my family passed away my sister and I had taken care of them through that. We are the ones [who] clean them and get them ready and take them through that process up until the point of when their wake starts. We knew my grandma was sick for a long time. She had always asked my sister and I to do that but I could not get away from school because I had to take these biochem classes where there is 600 people in the class and the instructor cannot make an exception for one person because if I do that for 600 other people. I tried to get my department to advocate on my behalf but it ended up coming down to—“Jewish people donate enough to the larger university out west that we observe their holidays on the calendar,” “but you are not gonna observe my religious beliefs because I am too poor?” is what we got to. I could not leave. I stayed there and she passed away. I did not get to go to any of her services. I failed all my classes for the next quarter. I could not get my head there. My younger sister, she unraveled because
| T5-54 | She was having her same problems I was having. That impacted my school because I was trying to help her. This whole month long process of grieving you can have here, we never got to go through because we were stuck there because it was such a large institution and so scripted and rigid they did not have any flexibility to accommodate that. If you want to have diversity and bring people here you have to be able to do that. |
| T5-55 | Whereas at the larger university out west it was not necessarily that, I feel there are some students [who] have been there for so long because they do not have someone there advocating for them all the time. I think the worst stuff would probably, I talked to you about that crazy graduate program manager I had and the crazy stuff she did and not being able to come home when things were happening and when my grandma died and not being able to observe those things. And then not feeling my school was behind me when I needed to go do those things, it was a huge issue. Then when I could not go do them, my academics were not negatively impacted for quite a while. |
| T5-56 | There is a huge Forestry lab that was right across street from mine on campus. Which is where most people from my tribal college end up. I was like, “they were all there and having a really great time and doing really well in their classes.” Then there was me and this Navajo lady [who] were in our department literally right across the street barely passing classes and making it through stuff. I was like, “Why is this such a huge difference? It should not be like this at all. You guys should go across the street and learn what they are doing and then do it over here.” But they just never did that. |
| T5-57 | Just more inclusive of diversity in general. They had more Hispanic students, they had more... Even if you were the only Native student you fit in better. |
| T5-58 | After my experience at the larger university out west, I do not want to be in school for a long time. It was ridiculous. What is ridiculous about it is the larger university out west is this institution that is so perfectly situated to serve so many different American Indian tribes in this region... Then to have people who work there who are absolutely some of the most racist people I have ever met... I would not ever go into a Ph.D program I do not think. Because I was left feeling like, “who am I? Was I supposed to do this? Was I good enough to do this? Am I just going to fail again if I go somewhere else because I had such a hard time here?” It is hard to walk out of that situation and feel confident, feel I could complete a Ph.D somewhere else... I would rather go to school to get a degree in education so I could go be that person so those ignorant people who are there right now do not have to be there, to help other people get there... Jim has a student [who] went there for an internship from my tribal college and other people. It just makes me feel, I do not want these kids to go there. Maybe they will not have the same experience but they might. Send them somewhere where they will do better. |
| T5-59 | Gaining experience. I feel there is a lot of good experience I can get at the federal agency just working with them... Because my parents both work in offices where if I came back I would be trying to get a job working in an office with them and I would not be able do that, because of nepotism. Waiting until they have cycled through their careers so that I felt I could come back and get a job on my own without people saying, “Oh, it is because of this or that,” and not because she actually was qualified for the job. |
| T5-59 | No, actually I was just having a conversation with my brothers last night about how when they go to college I feel they need to make an effort to get away from the rez. Not that they need to get away and be gone forever, but they do need to get away to learn how the rest of the world operates. Not that it is a huge difference... I think it is good to, number one, be at the tribal college because it is a link, at least here anyways |
because of the people who are teaching for my tribal college have worked for the tribe or worked for other tribes and have the practical experience and help people to see this is a really good depiction of the world but I am going to transition to what I am going to be expected to do. It is a very realistic, it gets at people’s expectations to do that, to learn how to be successful. But being at a university outside of the rez and elsewhere it was very educating for me to see how people think about Indians because you get that in your interactions with everybody all the time. You know the questions they ask you and the types of things they do when they are around you. You really learn all the things they perceive all the things they things they think you are supposed to be. Then get a chance to make, not necessarily refute those things but if they are in opposition to what we do and how we feel and how Indian people are, you get to set people straight. Then you also see how this is the length between the tribe and the rest of people... I think there is a lot of intergenerational, historical trauma with people here still or on a lot of rezzes. The ultimate form of colonialism, who knows when it ever ended, right? Put people in this restricted, predefined area with only a finite amount of resources and then they are forced to, not fight over those things but to just you have to do whatever you can to just keep that small finite amount of things you have. That, as a community brings people down. How colonialism is not dead... You get out of that. You get to make the decision for yourself if that is real. By going to an institution that is outside of the tribal college like a mainstream state or research school. I think it is good because you get experiences with tools. Because my tribal college is a practical, I do not want to say it is a trade school but it is a lot more learning “this is what you are going to do and here is where we are at right now.” But at a larger institution, “here is the next step of where I think we should be going,” it is a lot more theoretical and up in this upper, it is more like just occupying this intellectual knowledge space not just “here is the tools I need to be successful.” But learning “here are the tools that exist out there” so if somebody did go to school at a university and then come back they have the extra next step of where things could be going and then could be trying to move things at home towards that direction.

Then at the federal agency, one of the things we have just started trying to do is to incorporating, I am not going to be able to think of the plant now... We are trying to get the nearby tribe to give us their traditional, if they do not want to give us verbatim, a better idea of how they traditionally used the plant and re-seed and re-establish it because the places where they do that it is working and the places we do that, it is not. There is an effort to meld those two together knowing that there is just something that they are doing that we do not know about it and that we should do what they are doing because it works.

That there is all that intergenerational historical trauma that people put up this wall. “You have been treating me terribly for hundreds and hundreds of years and now you need something. Why should I help you? You have not ever been helping me,” and with this federal agency in particular, “You came in here and put up this dam and now we do not have fish anymore. We have all these negative impacts from hydropower that is all over the region, so why would we want to help you?”... Then frankly, I think there is probably some really ignorant people who work at the federal agency and that is probably true anywhere. There are not people [who] are not savvy to the fact that this a very unique group [who] has this very special to the land and just because I am ignorant to it I do not speak to it in a way that is respectful to them, and that has rubbed them the wrong way and they do not want to share anymore. I have that all the time at work today. Non-tribal people in natural resources working with tribal people and not knowing enough to be, and it is not that they have to buy into anything
<table>
<thead>
<tr>
<th>T5-62</th>
<th>Indians are saying, but to be PC enough to interact with them on a respectful level especially if they are a sovereign you need to treat them like that.</th>
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<td>I think that the federal agency in not wanting to, it makes more sense to get the information and use it in implementation but then not to hold onto it. Because holding onto the information puts you at risk of controlling it if something were to happen later. I think that when we do ask folks, it is we want you to participate as we are doing it, we want it to be successful, and as soon as it is done we want you to know we are not doing anything else with it. It was just strictly for this implementation. It is not like they have to give it, try not to ask for maps of culturally sensitive places because we do not want them to feel we need to have that or we want to have that. In implementation we want to make sure we stay away from it. We do not want to keep it. I do not know if that makes sense.</td>
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<td>T5-63</td>
<td>I think we are a lot better suited to have it now, getting better at it every day than maybe twenty years ago. The tribes’ capacity is growing all the time. At the same time, most tribes are. Everybody is getting better at what they are doing at the same time. I think that will make the sharing of that information in the future easier. I think the other thing that makes people reluctant too that I did not mention is everything is so accessible now.</td>
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<td>T5-64</td>
<td>I think the state I currently live in has the most protected fish consumption advisories in the country. They set that. There was a woman at their state university [who] worked with one of the local tribes to document because they have a couple of seasonal type cultural events that have to do with when lamprey are moving or salmon are moving or sturgeon are moving when they have these big feasts. They also eat a lot of invertebrates: clams, and shrimps, and things like that... She incorporated that into the research that she did, that they ultimately back-calculated their water quality standards from... She has helped them come up with a quantitative metric that measures the qualitative value of actually having healthy and safe fish to eat. That figures into their, they set their advisories and what people are eating and what they are doing including that cultural component.</td>
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<td>T5-65</td>
<td>I think it means you are more responsible than the other tribal people are because you have the ability to act on behalf and advocate for all of the traditional uses and values of natural resources that maybe just a member who is not in that role can do. If you are in natural resources you know how things work. You have the understanding of the laws and regulations, policy, of how the policy and the laws get implemented and how those impact tribal people on the other end of it. Because you have your traditional cultural practices here and what you do at work and you see how those things link up. I think that they have a greater obligation than just a layperson to advocate and try to protect resources.</td>
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<td>T5-66</td>
<td>The clearest thing I have is every time I wanted to go fishing or sit down and eat fish now with my family. This is maybe a very specific part of natural resources but being able to think about water quality and if the water quality standards are here and how the state manages fisheries so I can try to ballpark in my mind, well the demographics of the fish populations is skewed to an older, larger fish knowing the biology of reproduction and maternal transfer of contaminants into offspring and different stuff. I think about that every time before we ever eat or before, I will go fishing with a friend on his reservation... I have to think about, when my grandma’s memorial was in one of our communities and I brought all that fish back, bringing it back so we could do this thing at the pow-wow with lots of people and celebrate her, and have this closing the loop. At the same time being really neurotic about the what fish I was choosing to bring thinking about who the people are who are going to be eating it, whether they...</td>
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are going to be kids or older people or just because of the fact that they are Indian that their susceptibility to cardiovascular disease and stuff like that, trying to pick good, healthy fish based on what I know. That is probably the best example of how those two fit together on a regular basis.

| T5-67 | I would think that... the fire science group that is right across the street from the department that I was in. They have tons of Indian students [who] are in there. They have tons of other diverse students there. The faculty are diverse. Like Galen, he must be Hispanic or Latino so the students see themselves reflected in the faculty or at least a closer depiction than a white male [who] has spent the last thirty years working in ivy league schools and then ended up at the larger university out west and is running some big lab. It is hard to identify with that person. They had lots of Indian students there. They had lots of resources. They had an area, a space for all of them to be together. They all had tribal related projects which I think made it meaningful to them because at the end of the day... I left home. I could have stayed home and got a job and help people there but I left home and I am in this strange place learning all these abstract ideas and the project that I am working on is not going to benefit anybody I left when I came here... I think you would have a lab and you would have lots of other Indian students and they would have resources and a space to occupy. |
| T5-68 | Just that I think that if there were more Indian students together at the larger university out west it would have been a lot better. If you could pair students if they are leaving to go somewhere else so that you have somebody else with you who is your peer who understands what you are going through and you can have them together. I think that would be great. I also think that my tribal college is perfectly fine the way it is because you give students practical experience and lab experience and a degree at the same time so they have more skills than someone from undergrad, more practical work skills than someone who just did their undergrad in biology in a big university is going to have. |
Table 10
This table is for the idiographic analysis of Interviewee 10. It is comprised of excerpts from Interview 10 that describe her experiences during her pursuit of multiple degrees in the field of natural resources.

| T10-1 | I guess it did just through my dad and the way he taught me and interacted with the outdoors. I always... felt more spiritual when I was actually outdoors and in nature. I felt more of a connection with a creator or higher being when I was out in the woods or by a river. I think it did. It calms me to be outside and around rivers. I think ultimately it had an influence on it. |
| T10-2 | I am a very sensitive and emotional person. I think it depends, I think my choice was based a lot on my emotions and what I felt passionate about. I started to feel very passionately about fisheries, rivers, conserving them, being a good steward of the land and having something and wanting my children and grandchildren to have the same experiences that I did when I was growing up. I want to preserve something for future generations so they could go into the woods or fishing on a river and have the same experiences that I did. I think that was a big influence. |
| T10-3 | Not really. I was just realizing that as far as Art History went, I loved studying other people’s art but I do not like my own art... It was not really what I wanted. I had kind of looked into other schools before I went to the [state university] and I had looked into schools... that had good fisheries programs. I think it was always in the back of my mind. When I was little, I went camping and fishing with my parents almost every weekend. So I grew up with it and it just reemerged as I got older. |
| T10-4 | I was originally going to be an Art History major with a Drama minor. About a year into my undergrad, I woke up one morning and said, “Nope, I think I want to study fish.” It just kind of came to me one day. I had always been interested in fisheries and the outdoors. As a kid, I always wanted to be a marine biologist but then in high school my interest kind of changed. One day the switch kind of flipped for me while I was an undergrad. I realized that I needed to change my major and I really did want to be in natural resources. |
| T10-5 | I had applied to [multiple universities] randomly. I got in to just about every school. I realized that after my first year at... any out of state school, I would have been $25,000 in debt. That was just something that I could not afford. Ultimately, I ended up going to [my state university] because of the cost. The in-state tuition was so much more affordable for me and I did not have to take out as many student loans to go there. Ideally, I was going to start out at [my state university], do a couple of years and get my general ed requirements out of the way, and then move on to one of the other schools. But I am willing to go to the preference but have less debt but then when I found the Aquatic Wildlife Biology program I ended up really liking it and decided to stay. |
| T10-6 | Kind of on my own. My parents helped out as much as they could with that. I think my high school guidance counselor had bipolar disorder so he was not helpful at all. One minute I would tell him I wanted to apply to go to NYU and he told me, “You cannot do that, you are just going to be a number.” Then I would walk into his office the next week and he would ask what schools I was going to apply for so I would tell him NYU again and he would say, “I love New York City. That would be great for you.” It was really bad. He also told me that I was in the upper percentile but I was in the lower half of the upper percentile. I really did not have a whole lot of guidance as far as outside help goes. It was really just my parents and me just sitting down, working through the applications and trying to find some amount of scholarships. My tribe did have an education director and we met with her when it was my senior high of school when I
was just finishing up. She talked with me about what the tribe could offer because they do offer scholarships for tribal members so I was able to get some financial aid through my tribe through her. She was helpful in that sense for scholarships but she also was not entirely helpful; she was really pushing the local [tribal] Community College on me and I do not know if they were trying to recruit tribal members to go there, but it was not where I wanted to go and she was sort of pushy about it so I ended up not really using her as much of resource.

So I looked in the course catalog and I found the closest thing to fisheries and I assumed it would be in the biology department. But the closest thing to fisheries was Zoology. I went in to the biology department and I met with an advisor and they got me lined out with the courses that I needed to take for Zoology. In reading through the courses that I was going to have to take. I took a couple of them when I started down the path of Zoology, I realized it really was not aquatically-focused enough for me. It was not exactly what I wanted. I just started thumbing through the catalog and I found the Aquatic Wildlife Biology program through the college of forestry and conservation. I realized that was the program that I really wanted to be in. I went in to my advisor in the biology department and I said, “I have been looking in the course catalog and I found that I think I actually need to be in Aquatic Wildlife Biology.” Her answer was, “Oh, well then you need to go talk to someone in the college of forestry and conservation because that is not one of our programs.” I said, “Okay, thanks for your help.” I went to the college of forestry and conservation and I found Patty White who is the fisheries professor and I laid my entire life out on her desk and said, “Help me, I think I want to be a fish biologist.” That is how I changed. It was not the easiest transition.

I took the... Summer Field Ecology course because I was behind because I had started the biology major a year into school so I was behind on my science classes. I needed to take a summer ecology course so I did it at the Bio Station and Bill taught the class. That is how I met him. I loved that field ecology course... I realized that I really enjoyed being in the field and learning things as I was going... I made that connection with Bill. When I found the announcement for the internship, the following summer, they already knew me because I had been a student. I think that helped get me in the door for that internship. I worked for the summer... for Bill but also for another field camp manager. That is how I met my advisor. The following year I came back and I had a job at the university doing air quality work in a chemistry lab. I went to an all scientist meeting at the Bio Station for the work we had done the summer before. Bill had a PowerPoint presentation and a map of... rivers. One of the rivers was the [river on my reservation]. I grew up going to [that river] because my family was there and that is where my tribe is from. Afterwards I went up to him and said, “What are you doing [on that river]? I had no idea that you were working there.” He said, “I am not yet but I would really like to.” I said, “If you do anything there, I would love to be the person that works for you and does it.”

I had a unique opportunity because my graduate work was focused in my tribal homeland. I was able to make that connection with the [river on my reservation] during the course of my graduate work. My advisor pushed me to pursue traditional knowledge and talk with tribal members and incorporate that traditional management and traditional use of fisheries into my thesis.

I think it had a positive impact because had I not gotten the education that I did and my thesis incorporated some Traditional Ecological Knowledge and interviews with some of the tribal elders as well. I feel like it really started me on this path about learning more about my tribe and their ties to the river, fishing and traditional
| T10-11 | I think it made the experience much better. I would have to say that it was one of the most enjoyable things about my thesis was learning more about my cultural connection, my tribe’s cultural connection to fish and learning about the history of the river systems through the eyes of tribal elders. I think it definitely was a really good thing and ultimately made the experience much better. |
| T10-12 | I think the best experiences were I think being able to incorporate that traditional knowledge into my graduate experience was very enriching for me. It taught me a lot. My advisor basically telling me to incorporate western science and traditional knowledge and use them both in my thesis work was very enjoyable and my advisor was very supportive of that which was great. I really think having the Sloan Scholar’s group and having other tribal members as my support system through school was incredibly important because I think that tribal students think about things differently and have different experiences than non-tribal students do. I think that was really, really helpful for me to have other people [who] had the same kinds of thoughts, feeling and issues as I did so that was really great. |
| T10-13 | It was great. I remember going to Betty’s office and sitting down talking with her and with Catherine. It was really, really helpful and really eye opening for me. I really enjoyed talking with other Sloan Scholars and other Native students and then with Frederick. |
| T10-14 | I did. My advisor was definitely a mentor. I think my committee members; most of them were mentors. Then I had a professor, JoAnna, from [another university] [who] my advisor knew that I had met and he became sort of a general life mentor for me as well as a graduate school mentor. I think that would be it. To a certain degree, I feel like you and Catherine were… just a lifeline and a support. |
| T10-15 | I would consider you guys mentors as well because you both were further ahead than me and you had kids. You had that added element and I remember thinking to myself how much I admired the two of you for doing what you were doing and pursuing your graduate degrees while you had this whole other life and these other responsibilities. For me, it was that I had Gale at home and he got kicked around a lot for sure but I just remember thinking that I did not even know how you did it, you were amazing and I wanted to learn from you. |
| T10-16 | I received a lot of general advice about how to survive grad school and be successful. Also, how to be true to what you are passionate about while you are pursuing your degree even though you have some bounds that get put on you. Then I think from the one group and from you and Catherine it was just very much like a daily survival on how do you go from being in a committee meeting when you get ripped apart to going home and having a life with your significant other; and not having your grad school experience, which is pretty much a full-time job; and you can give out all the time; and you wake up at 3:00 in the morning to start writing something because you have insomnia; and how you balance your school life with your home life. |
| T10-17 | It was good in lot of ways. I was trained as an ecologist and a biologist so you need to know western science methodology to be a scientist or an ecologist, period. I think it was good and ultimately helpful but it was hard, like I mentioned before, at times when the classes were very specific and did not represent as much of a broader view or an ecological view of how things were tied together. Sometimes it was really difficult for me to make the connection and learn at a microcosm scale. |
| T10-18 | It has made me more of a critical thinker about things and it has made me be more of a logical person. It was really that training in school that made me more of a critical thinker and made me more logical about things. It was something I thought was during |
school because for most of my life I based most of my decisions on my emotions and things that I was passionate about. How things that I did and said would affect other people and so in grad school, and in undergrad really, that western science is very logical: it teaches you to question things and it teaches you that it is okay to question things and it is okay to disagree with people as long as you have facts to back it up. I think ultimately that helped me develop a thicker skin and helped be more of a critical thinker about things in general which are good. However, I also saw those people who completely did not think about how things that they would say to people, that they would just say things sometimes that were just outright rude or mean or would just completely negate all of the work that someone had done for their thesis work or something. It was okay for them to be mean, be critical because they were a scientist. I think that I saw a lot of examples of people taking western science, that critical thinking and that logic to a degree where it was not constructive anymore and it was just sort of almost cutting other people’s work down to make their work seem better or more important.

Just getting ecology, I often feel like that. I just get it and that is how my mind works. That is how it was in school too. My ecology classes where I can be outside and see how everything connected with each other. If you harvest this tree, what does it do to the rest of the system? It is a very much “you just get it.” It was hard for me in quite a few of my classes that were very specific. It did not make as much sense to me as the bigger picture did. I often felt in the ecology program, it is a program where students and professors focus on one mechanism of one species. That was not me and that was not my project and that was not my advisor. Everything was very broad and how is everything connected with each other. How does the water quality affect the fish, affect the algae, and affect the plants. It is where you just get it from an ecological broader view point.

When I was growing up, I did not even know it was more in a traditional—that my dad was teaching me in that traditional way. But he was and that is how he learned when he was little. That was how his family taught him and that is how he taught me. Consequently, that is how I am going to teach my children too.

I think it has a lot to do with—I would think the way they were raised and with their ties to their culture and what they grew up doing with their families. How they went out and hunted or how they fished or how they gathered. I think ultimately, your view of things and—the way I grew up was very much the same thing when I went hunting with my dad. We were hunting for one animal but we would also—he would show me interesting things like rare species or we would look at tracks of other animals or look at other animal poop. We would learn to track and identify different species so it was not that you were out [just] focused on getting a mule deer and that is all you thought about. We would look at the snowpack and talk about how it was going to be a dry year the next year because there was not very much snowpack in November. I think it probably has to do with the way they are raised.

I do not think that I did. it was not until grad school when I started doing my own traditional knowledge interviews that I really started incorporating traditional knowledge into my project work. I did not really—I had heard about the Native American Studies Department at [my university] but it was not something that was built into my curriculum and I was not really—it was not highly advertised, it was not on my radar. In hindsight, I think I would have loved to take some of those classes. No, not really.

I think it probably would have been helpful to have some tribal knowledge incorporated with managing resources in a sustainable way and more of a traditional
It would have been really interesting to learn how historically tribes used fire on the landscape, for example. Or how they managed fisheries? How they decided to take what proportion of the runs and that kind of thing. I think it would have been good. I took an introduction to a natural resources—careers and natural resources class and it was an introductory/basic class. Maybe more traditional knowledge in that class might have been good for a different perspective on managing natural resources.

I would think it would be a lack of information or a lack of knowledge of traditional information. Or perhaps they are just not comfortable talking about it from an outsider’s perspective. I know this is giving them the benefit of the doubt but I would think that that would be—I think a lack of knowledge and understanding. Probably a lack of understanding of how to incorporate that into the course work and give that other perspective. I think a lot of professors—I saw this in grad school with academia in general—you are put on the western science path and you have these guidelines and it is very strict and very specific. To go outside those lines, I think a lot of the scientist and professors are uncomfortable with that. Whereas—I saw this with tribal grad students—we tend to think of things instead of that microcosms in a very specific level, at a broader level of how things are interconnected and how all the pieces fit together. I think a lot of the professors are trained in the western science, scientific methodology and that is where you go. You do not really have room for these outside factors for anything other than the traditional western science methodology.

Yeah, I think it does. I definitely think it does. I find often that—there are some folks who are nontribal who very much think along the same line on a broader scale and understands. But with folks who do not quite get it, I think they see these things on a microcosm of management—managing for this one species for this one issue. I think it is hard for them to step outside of the box because of the way they have been trained through their educational path.

I think some things that were obstacles for me were the program that I was in was very specific and sort of microcosm-centered and my project was not. It was a difficult sell, I think, to the program and the professors in that program.

The only things that are coming to my mind are like smart-ass answers like: beer, crying at night at my kitchen table by myself, so. I overcame it basically—I sort of just had to or kind of just had to play along because my advisor tried to get this person to work with us a little bit and it just was not happening. Ultimately I just had to play along and I ended up taking longer to finish my Master’s than I would have liked to because of the (inaudible) that I had, because my funding ran out and I then needed to get a full-time job. I ended up finishing my degree while I was working in another state in a full-time job. I kind of just had to be flexible, take it in and absorb it and do the best that I could to appease that person and what they wanted because they were very much an obstacle between me and graduating.

I feel like because I am a Native American in the natural resources field, I feel like I hold myself to a bit of a higher standard because of that cultural and spiritual connection to the land and the fish and the water. For me there is a real sense of being a steward of the land and not so much taking fish or harvesting plants or things like that just to do it and you just harvest as much as you can or take as much as you can. It is more of a management and an outlook of sustainability. Take what you need and let the rest go so next year it will come back. For me it is a sense of being someone who manages the resource sustainably for future generations and managing the resource for the benefit of the help of the resource not just for my own needs.

I think it is often difficult to integrate western science and traditional knowledge in a way that is helpful in moving forward for putting all the pieces together. I think on the
| T10-30 | It has been a learning experience over the last couple of years. Working for a tribe is completely different than working for an agency. I started out working for a non-profit organization and that was also was completely different than working for a tribe. There are a lot more politics involved in working for a tribe. I mean there is politics with every job that you have but in working for a tribe and being a tribal member working for your own tribe, there is internal politics, then external politics. I think sometimes it is hard when you are a tribal member and you work for a tribe to show up at a general council meeting if you really want to express how you feel about something because if it is the opposing viewpoint of your management, you walk in on Monday morning and you say, “Hi” like everything is fine, you know you cannot take your tribal hat off and put your employee hat on or vice versa. I do not think—maybe it is different at tribal colleges, but I do not think there is a class that can really prepare you for that aspect of it. I do not even know how you would teach somebody that. |
| T10-31 | Yes, having the extra steelhead available for the tribal food banks; feeding tribal members; incorporating our Native language into our natural resources programs. We are currently revitalizing our Native language so I am learning words for salmon, lamprey, steelhead and what those are in the [tribal] language. I get to incorporate that into my work a lot as well. |
| T10-32 | I think we are going that way… our… natural and cultural resources… blend a lot with the cultural folks. I think probably we are one of the departments within the tribal organization [who] incorporates cultural and traditional practices probably more so. The more that we learn about our traditional practices, our tribe was part of the… Termination Act. So, in the 1950’s we were recognized long enough to be unrecognized as a tribe so we were not re-recognized until 1982 so there has been this massive cultural trauma that has happened to tribes throughout the United States and then on top of that, we have sort of had to pretend to not be a tribe in order to survive for a really long time. Now since the early 1980’s we have been building back up that cultural connection is the thing. So the more we learn about our culture and the more we revitalize our language, I think the more we are going to incorporate cultural and traditional practices within our department. |
| T10-33 | Wow. In a perfect world I would think that, based on my own experiences and some of the things that I felt like I was lacking on the cultural side of things, it would be great to have more Native faculty or Native professors from all tribes everywhere with diverse... |
Having professors who also were not on the straight and narrow track, has life experience, and has an understanding of coming from a tribal background and how that makes things different. I think that would go a long way in their teaching styles with kids and their ability to connect with tribal students. I would see a natural resources curriculum that is split between western science and between like a Native American studies or that Traditional Ecological Knowledge of things and sustainable management and traditional management. I think that the western science is important for natural resources students to have but I also think it is very important to have that cultural connection and a broader view of saying and a more sort of historic view as well. I would say a mix of both the western science and the Native American studies.

I think it would probably be helpful if within that faculty and curriculum, if there was a creative natural resources class and it kind of laid out that if you work for a state agency, here is what is going to happen and more than likely here are your bounds. If you work for federal agency, here are your bounds. If you work for a tribe, here are your bounds. It would be great to get someone on the faculty who had experience working for a tribe so they could sort of impart that knowledge. They could explain to you then that if you work for an agency it is more that you serve the public. If you work for a tribe, you serve the tribal membership, but you also have to have good working relationships with all of the agencies and the public. I think a class specifically focused on that with someone who has worked maybe for an agency and for a tribe so they have different perspectives on things and they can give kids the pros and cons. That might even be more of a graduate level class because I would have to scare off any undergrad students. Then also I think for—and this is not necessarily for the curriculum for Native students in natural resources, but having an advisor or a school advisor who is also Native or who understands the differences between the path of Native students and the path of more traditional students would be really good and also having committee members [who] also understand that as well. And have a good understand of more of a tribal viewpoint on things.

Table 16
This table is for the idiographic analysis of Interviewee 16. It is comprised of excerpts from Interview 16 that describe his experiences during his pursuit of multiple degrees in natural resource-related fields.

| T16-1 | I was always drawn towards it early in my life, I think. Around 1995, I had a job as a work-learn program in the natural resource department in [my tribal community]. We would go out and job shadow the technicians and the program managers who studied water and air. It kind of piqued my interest at that point. And then [at my first university] it was more just a general studies and then I got to [my tribal college] and I started taking more science classes and that piqued my interest again and then it geared my towards my environmental degree. |
| T16-2 | I was in high school, I think I was a sophomore at the time, maybe a junior. I did it for two years through my sophomore and junior year. |
| T16-3 | Yes. First couple years of the work-learn program, I started to get an understanding of what the tribes faced not only within the boundaries of the reservation but the exterior. Is pollution coming from [a border town]? Or the mines down in [another state]? The water that comes out of the main river... came from cultural practices. That understanding really helped me choose this natural resource degree. |
| T16-4 | We would go out and measure water. We would go out with the air quality team and... |
go to the air quality sites and take down data and help them. They also had a—we would help go and clean up places that had a lot of garbage.

T16-5

It was a lot of things that I did not know before going to work for that work-learn program that they actually measured water that the tribes had. At that time they were trying to acquire water quality standards and air quality as well. I lived near the [border] town about 20 miles away and I started to learn about how the tribes had an agreement with the power plant there to measure air quality, make sure they were not damaging the air quality. [My tribal] air shed so it was very important to learn all the things you really think about as far as the environment and natural resources.

T16-6

For starting, I looked at a map of my reservation and I looked at all of where it sits as far as the energy development. It was just shocking. Every side there is energy development in south eastern [part of my state]. They have to fight just to keep all this pollution from impacting the reservation. I guess with the factors—I want to keep the reservation clean and wanted to have the same Class 1 Air shed, I wanted to have the air shed the same for my family, for my descendants. It is really important for me that we enjoy—my family, their descendants and my descendants all enjoy the same good air, good water, clean land that I have enjoyed, the wildlife. I want to keep that pristine. There is a certain element that there is good jobs in natural resources. [My tribe] has a good environmental protection department as well as the tribe I am with now they have a very good natural resources and environmental protection department that has influenced my decision to come here.

T16-7

I would—I also work for the BIA in [my tribal community]. One of my jobs was to rebuild roads... We kind of learned about these best management practices that helped in that hands-on learning experience. I look back at it and I knew it was one of the starting points for me is I still draw back on that experience at the job I really am. I still look at a road and say is it inside, is it cutting off the stream? Besides the work-learn program that was another experience that geared me towards natural resources.

T16-8

[My state land grant university], my friends were going there so I decided to go there. [My tribal college], at that time I was living in [my tribal community] and I was also working for the BIA on the roads and they allowed me to take classes while I worked. So that was very helpful. [Another university in my state], I moved over to [that community] because I have an older son who lives in [a nearby town] but I also heard about the Environmental Studies program there. Before I got my AA, I was searching around to see what would benefit me. I saw their environmental program was great and I talked to a few people at the college there as well as some professors, that was why I chose it. As well as the area, the area is beautiful.

T16-9

I knew that [the university in my state] had a strong Native American presence. As far as the program itself, I had not heard of too many Native Americans in the program. While I was there, I think I might have been the only one [who] was actually in the program. There might have been a couple [who] would take classes like Forestry or Native American Studies. But as far as I knew, I think I was the only Native American in that program at that time.

T16-10

When I first went to college and I did not make it and I came back, they were disappointed. But I think they kind of knew that I had to learn myself; that is the kind of person that I am. They said, “Okay, you have got to do something.” So I started working and that is when my mom started in with the, “You can get free classes here.” Of course, me working and making money and having the time to register—I think it was my ex and my son moved to [a different town] and I was still in [my tribal community], it kind of hit me. I have got to get back over there; I have got to go see them. I am tired of working these small jobs and barely gives him money or his mom
money. That was the other reason that I went to college again. That was the reason I went to [a university in my state] is to be near him. And then I eventually met my wife [there] and she was very instrumental and pushed me to complete my Master’s because at that time she was completing her Master’s. She knew everything. She knew what you had to do. She knew to do a professional paper, a thesis. She gave me a lot of good information. I think my family was probably the most influential factor of completing my degree; whether it was my son, my mother, my wife, my father, they all just wanted me to reach my goals. They were very influential.

| T16-11 | At [my tribal college], my mother worked there so I got a certain amount of classes for free, usually 1 or 2 classes. I did not have to complete—I just kind of did it to see what I liked. I took a business class and then I started getting into the natural resource, environmental classes and I really enjoyed those so that is what I kept doing. At that point, I had a lot of help from [my tribal college] to do applications for other—for [the university in my state]. I think I became dual enrolled in 2006 so I was enrolled in both schools, which helped a lot with the transition. I also applied for scholarships while I was at [my tribal college] and the student services there helped me as far as interviews, which is a big, big thing. I was able to get a scholarship while I was at [my tribal college] which transferred over to the [university in my state]. I had a tribal education department advisor who would make me get midterm grades and get final grades and make sure that I got all my classes set up for the next two years. |
| T16-12 | Yeah, it was tough. But it gave me the help—it kept my eye on the goal and make sure everything was lined up right and ready to go. Before I could get my money, I would have to do all this stuff. That helped. And then switching over to Sloan’s. At that time, Sloan’s was, as far as I know, pretty much I just had to take the GRE and as long as I passed I was pretty much good to go, which was great. So that really helped as well. |
| T16-13 | I would say it was positive. At [my state’s land grant university], I was not really geared towards that so it did not work out that way. But at [my tribal college] College, I had some good science teachers... I really appreciated their help with their classes. And then I enrolled at [a university in my state] and they were very helpful as well and very positive and keeping me there. I also received a scholarship that was through [my tribe] and that really helped me keep my goals in mind and things like that. I also received a scholarship at [the university in my state] and my Master’s degree, the Sloan’s scholarship and they were also very helpful in acquiring me tutors and things like that and the whole Native American element was very present in that program. So that also helped me connect with other Native American students at the [university in my state]. |
| T16-14 | I do not live on the reservation that I was raised; however, I still monitor the hurdles that my tribe faces. I am still in contact with tribal members over there, friends and family, so it is very important to me that my tribe continues to monitor the air, the water, and sets down good policies. I also work for the [my wife’s tribes] and their needs as a tribe are also important to me. I draw that line between my tribe and this tribe and see the similarities that each tribe faces and the hurdles and policies that we must overcome to keep our air, water, and our land safe. |
| T16-15 | At [my tribal college] I did; I believe it was called ethnobotany. They had a tribal member who was fluent in ceremonies and language and with plants and animals were sacred and how to use them. That was probably the only one I have taken some sort of a tribal or cultural aspect to it. I have also taken some tribal language classes and that kind of thing but this was more of a natural resources—plants, animals class. |
| T16-16 | [My tribal college], we had professors [who] understood that the tribes have a lot of history that they can draw from as far as science and math and environmental works. |
A big aspect in some of my papers were about tribal cultural and how it tied back to
the land and the air and the water. As far as [the university in my state], I tried to do as
much as possible. I felt that more of the emphasis was more on science than culture. I
guess because of that I did not put as much effort into explaining my cultures when I
talked about water, land as I did at [my tribal college].

When you localize it, I think is very important. At [my tribal college], we were worrying
about things that happened outside the college doors. It was more applicable to the
tribal culture and science. The [university in my state] is more broad and there really
was not any chance to bring in that aspect of science as far as tribal knowledge and
traditional knowledge or Traditional Ecological Knowledge. I feel like I do not know
enough to kind of want to share as well. I did not get that feeling as much at [the
university in my state] as I did at [my tribal college]. There were definitely professors
there [who] would probably enjoy it but they would not understand it. That was kind
of the problem; if I put this in, if they are not really going to—if it is going to confuse
them. Sometimes that would be the influence of when I was writing a paper or doing a
project.

It would be very beneficial if multiple—if they taught the science with a localized
aspect of—it would affect who had traditional uses of the land versus how we use it
now. That kind of aspect is, I think, very important. At times we would talk about
remediation or reclaiming but reclaim it to 100 years ago or before western influences
back to tribal members. I think it is important to put that kind of aspect in there. They
also have to have something to draw from. They have to have those interviews or oral
interviews of tribal members and how they used to use the land. You would have to
know what tribes were here before you. I think that is going to be a very good way to
teach a class or classes is to bring in that tribal culture.

It definitely—I want to see what is on the other side of the coin. I guess it showed me
what kind of goals—(inaudible) western sciences and culture—culture versus western
science. What the end goal was as far as the culture. We want clean air, clean water.
We want it to be so that we can enjoy it and have it for ceremonies because we have
done it for years—hundreds of thousands of years. As far as western science, it is more
like let us get it back to before man but it never kind of gave you a reason to
appreciate it more. You appreciate the process but not necessarily the end product.
There is different goals. As far as culture, what we want in the end but we do not really
care how they get there. We do but as long as we get there. Western science says get
there as quick as possible, let us do this, let us do that, when we are done let us move
on. Those two are not really contradicting each other but there is a big gap.

At [my tribal college], they did—they kind of turned me into sitting by the sideline
watching everything go by to actually participating in college life. It kind of clicked in
my head, you need to be a part of the experience rather than just going to class and go
home and do your homework, interact with other people and get to know the people
and share experiences. In [the university in my state], there was more of a social
Native American aspect I participated in more than the college life. Sloan Scholars was
definitely a very good program that I liked. [The Native American Student Association]
is kind of—I went to a couple of meetings and that was it. I think that [my state] could
use a couple more natural resource groups that we can participate in. In [the university
in my state], AISES is not really a [the university in my state] thing; it is a nationwide
thing. At [my tribal college], AISES was 6 or 7 of us. It was more of a—we got more out
of it—I got more out of it at [my tribal college] than I did in [the university in my state].

Yeah, we had fundraisers and that was so that we could participate and I think there
was a regional conference and nationwide conference, one of the two, I cannot
remember. We would ask for donations from local businesses and we would put a little science fair for the kids at the end of it. We would also volunteer in the community. One of my years we went and cleaned a local—we helped clean a local cemetery, which was right next door to the [my tribal college]. We went out and talked to tribal housing and asked if we could bring some trucks over, we bought a few bags, we put it out there for everybody and at least from the college to tell them all to come pick up some garbage. That was one of our activities.

T16-22
I participated in that Native American Student Association for a little while. At [my tribal college] I was in the student council, I think I was in AISES. Those were a couple and I think that was about it... [The university in my state] there was only a couple, it seemed like, some Native American groups. I did not participate as much as I did at [my tribal college].

To a certain point we would have the activities with the Native Americans at our college attend a powwow or we would go to a football game and go to the Native American tent to hang out before or after the game. We would all sit together in the stands. So I feel like there was a certain limit to being a Native American interacting with other Native Americans in that setting—in the college setting. I wish there was more but it is kind of tough, at least with me, because I was the only tribal member in my program. So at certain times they would come and ask me questions about being a tribal member. I remember being asked, “How should we refer to you?” And there was another Native American in there, he was a forestry major. I think the professor asked, there were about 10-15 people, but everybody kind of perked up, “How do we refer to you?” It was an interesting question; I am glad they asked because I think they were wondering it for a while. It seemed like, well, you really would not see this in a normal setting.

My thesis—I went back to the reservation in [my tribal community] and I tested the water for trace metals at 10 or 12 sites based on if it is a stream or river that is highly used by the reservation is a spring that might be closely significant or might be used by tribal members as drinking water—so I tested all of these sites for trace metals. I went back to the reservation, I think, four times and my thesis was about trace metals on our reservation. I tried to do some research if there had been any previous testing and it was very limited. There was not as much data as I would have thought. My thesis was based on that... After my thesis was fulfilled, I sent back a copy of my thesis to the reservation and to [my tribal college].

It definitely had an impact. You go into the graduate programs and you kind of hear the horror stories about people doing all the classes, getting all done and getting great grades, and then trying to do the thesis and burning out. So I had that in the back of my mind; I really hope it does not happen, I hope I can find an idea or some topic that really interests me. That is when we came upon the whole idea of evaluating the reservation for trace medals. That is what really drove me. This is important to me; this is important to my tribe. This is important for my people that I get this information that I get the study done and see what we find out. I think it was very beneficial not only to me, to my tribe, but more than just going and doing some sort of generic report on fish or nutrients in the water, I do not think it would have been as important to me. I do not think I would have been as driven. I might not have finished because of that.

Willie Dog Soldier was faculty—I am pretty sure he was faculty but he was also in the Sloan program. He was very important to me as far as I could go to him and talk to him about life or school. That was good.

Willie was a great mentor. I had a chemistry professor... who was great. He was very
beneficial to me. My environmental chair... was great. Sam, also environmental at [the university in my state]. At [my tribal college], I had a professor, he pushed me and he saw that. I think that sparked me about science and (inaudible) natural resources and he pushed me, “You need to keep going and move on. Do not stop here.” And my parents. Brooke, who was an environmental protection director, she was very helpful.

Other kinds of mentoring? I just think about—I think they knew that I had the tribe, they just did not want me to stop. That was the most mentoring I got; keep going, keep going, keep going, do not stop, get your Bachelor’s, get your Associate’s, get your Master’s. That was most of the mentoring that I received. I think everything else was, they could see that I was not struggling as much. There were times that I definitely did struggle and I had a hard time with classes. Most of them gave me encouragement.

Yes, there was—there was quite a few faculty [who]—my mother was the student service person there so I could always go talk to her. I had an uncle who was the dean of students. Those were the kind of people [who] I can go talk to [who] I knew. If I had questions I can go ask about the culture or the tribes. Even our library had a lot of Native American books, tribal books/history.

The best was, of course, to get my Master’s degree. That was one of my greatest days. All that hard work. It is a piece of paper or a thesis book or whatever, but this is what I want to do, I have done it, I accomplished my goal. It was a great feeling.

That is a very good question. I have not thought about it. There were certain opportunities where you could integrate Native Americans more into the program but outside the program—I participate in the Sloan Scholarship and we would have luncheons, which were very helpful. You got to know other people. You got to know what sciences they were in and what they were studying. I think something more than that—not just to be social but what are you doing? How are you doing it? With other Native Americans where are you from? What are the problems on your reservation that you are coming out here to get the education to solve? That was more of a round table and we only did it once a month. It was good but you kind of wanted more. More interaction with other peers.

(not being able to be as involved in student group) If we could recruit more or not. It seems like I would hear about it—I thought I heard about a meeting once or twice but it just seems like it was not as organized as I would have thought for the [university in my state]. I could have been not plugged in to the right—I might not have been hearing the right things from the right people either. There is a lot of us but we are kind of disconnected on the [university in my state] campus because there were so many of us. It was hard hearing about it and when it was going to happen or a meeting. I guess to have someone get out the information to everybody that would be much better.

I was not attending classes the majority of my freshman year. I got one of my friends pregnant so then I started my second year and about half way through is when my son was born. So I ended up dropping out and started working. And then my son’s mother went to school while I worked and we were together for another four years and then we moved on. That was the main reason but I was not ready for college. I really wish I would not have gone—I do not really wish I would not have gone. I am glad I went and I am glad I failed because it gave me that drive on the second go around; you cannot fail the second time. You cannot drop out a second time because this is it for me; I got to get this done and over with. I need to get my degree. I cannot fail. So in that respect, failing the first time helped. It hurt definitely but it did help some.

My worst was dropping out of school. It is that feeling of defeat. I guess it comes to the Native American stereotype of going to college and not doing anything, not completing...
anything. At the same time, that was one of my best learning lessons was dropping out of school. For the next 6 or 7 years I did hard labor and it gave me that whole drive that I cannot do this for the rest of my life. So that was beneficial. [My tribal college], the college that I started back to was a great experience. I had relatives there [who] really helped. I gained a lot of friends. I learned a lot about my Native American culture, my tribal culture just by taking classes. At the university in my state, I do not feel like I was a token Indian. I feel like I actually did the work, I attended the classes. It sounds weird that you are ?? by the color of your skin but you kind of feel that some times because you are the only one there. They want to keep me because I am the only brown dude here. I do not feel like they gave me any breaks. I feel like I earned it. That is another great accomplishment is I did my job, I did my work and it is paying off now. I am very happy.

I think it is a great accomplishment as far as myself. You always hear these negative stereotypes, negative experiences of Native Americans going to college and failing and coming back. I have done that in Bozeman. I failed and I took a few years off of school because of it. This whole natural resource and Native American aspect where they kind of belong together kind of thing; you feel at home when you work with the land, then water, the air. I felt that drew me to natural resources because of Native American and I had this—not attachment but I felt like I belonged to this land. I was very excited to participate in going to school and being successful and tell other people about it. I do not know if you subscribe to the Tribal College Journal but they actually put me in as an alumni which was a great honor... It was a great accomplishment for me that through all the hard times I persevered. I got into a program I really liked and to a disciple that I really liked that got me back to the land that is very important to me.

At [my tribal community], yes. It followed those cultural and preservation practice and policy. Here at [my wife’s reservation], they also practice that. Everything must go through the cultural preservation department before anything can be done. Currently my job I go out and I try to restore/reclaim land that has been damaged usually next to a stream or a river or wetland. We have to work with the culture and preservation department quite a bit. It is always in the whole why are you doing it? You are always keeping an eye out. Does this look like it is a—sometimes I find a teepee ring or some rocks that represent something. It is always—that is engrained in my thought process. You got to watch out and if we do hit something everybody stops and get someone in there to reevaluate. It is definitely part of the tribal practices and the processes we involve our culture from our tribe and decision making.

I have a niece who is a senior now and I have talked to her about college and her whole thing was, “I just want to get as far away from the reservation,” probably from my parents. I had that same mentality too. I was just like I want to get away and be with my friends or whatever. But there is a lot of benefit to having a tribal college near where I lived. It employed people I knew, it taught things that were local that—things on the reservation that was important. It had classes on it, it had language—botany. I think that helped me as a Native American because... it gave me that chance to get into the whole school mode. When I went to [my state’s land grant university], it was just you go to school, learn now, learn now, you are done or you will get kicked out. If you do not your class you get kicked out. The whole coming off the reservation, that culture slam just kind of stuns you. To get back to college to [my tribal college] and then moving onto the [university in my state], that whole process really helped me because I had—at [my tribal college] I had that support system. In [the university in my state] I had a support system as well. That was very helpful.

Just that it was a fantastic experience going to school and meeting people and
graduating. You could not beat that. That was fantastic. And then moving on to an actual job that was in my academic field. There are a lot of people [who] do not get that. I think I am pretty fortunate.
| T17-1 | The number one was growing up where I did... I was always exposed to the outdoors and experiencing natural resources day in and day out for what you did for activities; you just went and played outside. I have always had a really strong interest in understanding that environment so I think that would be the number factor; just where I grew up. And then outside of that, just being strongly encouraged by my parents to pursue advanced education in any field that I wanted so a combination of those two work together for me to go into natural resources. |
| T17-2 | When I was in high school, I knew I wanted to do something where I could be outside and not be stuck in an office. I was kind of looking around and wildlife was something that piqued my interest and I just stayed in it. |
| T17-3 | My decision right out of high school was I knew I wanted to do something outdoors in the sciences... I wanted to stay close to home because I did not feel comfortable in a larger school and further from home... It was really a combination of the right location and financial support... I went to Missoula based on their wildlife program and understanding that that was what I wanted to do and still being semi close to home. It was really driven by those kinds of factors. |
| T17-4 | My Bachelor’s was decided more on still wanting to stay semi close to home but going to a program that I thought would be of interest and that was wildlife. My Master’s—staying at [the university in my state] was driven in part by the thesis project that I was able to acquire but also in large part, due to financial support that I was provided by the Sloan Foundation. By that point, for my Ph.D, my career was—I knew which career track I wanted to be on and I was more comfortable and on my own to kind of expand beyond those earlier limitations and then financial support was provided by the Ford Foundation for my Ph.D which I actually did not utilize; I had a secondary fellowship that provided a better funding situation. Regardless of that situation, Ford would have provided a similar funding situation and support for my Ph.D as well so that was a big driver of me ending up where I am at. |
| T17-5 | I definitely do and I think it also played a large role, in particular, on my thesis work on bison. I think I had a unique interest in those conservation questions and natural resource questions because of cultural heritage linked to bison, conservation and culture. |
| T17-6 | Because of growing up on a reservation and being able to afford the opportunities I have, I have made it a very pointed part of my education to open up avenues for other Native American students in the natural resources to become more involved and be more successful in natural resources whether that be wildlife or any other natural resource field. Yeah, I would definitely say that would be the biggest connection is that it really pushed me to open doors for students. |
| T17-7 | Through my research, yes. But I think that also is a function of my own personal interest. I think if there was a student [who] was in my Master’s [who] had no real conscious effort to relate this Native American issues and how bison fit into that picture then I do not think there would be any implications or any related links. I think it is up to the students because the students on a large scale are not even aware of these links it really goes by the wayside. |
| T17-8 | I am—yes. I guess there is been a couple different ones... At a more broad scale, I have never really been directly affiliated other than on email with the Native American club at [the university in my state] or [my current university] but I am part of the Native |
American Working Group of the Wildlife Society as a parent organization as wildlife biologists. A huge component of that is facilitating Native American student opportunities and networking. From that standpoint, I am involved with that student group in a way.

I think it is incredibly valuable. For one it provides a unique closeness with students from different disciplines [who] you would not meet through your coursework. And with the students in the Native American groups, they come from similar backgrounds and they face similar challenges. It is easier to have a conversation about those difficulties in that transition with those students than somebody who has no comprehension of what it is like to let alone grow up on a reservation but grow up in the middle of nowhere... or grow up on a ranch. You are able to connect with these students based on your historical upbringing and that provides a closeness that you cannot get from kids [who] you meet in class. I think that is the real value of making kids feel comfortable.

I have been very fortunate of a number of really good mentors both students and faculty advisors.

My mentors were really big into providing me with the opportunity for me to gain experience, to gain skills. In my case, it mostly involved undergrad research, which from there taught me some of the basic skills that allowed me to pursue a Master’s and to pursue a Ph.D. I think more than anything those mentorships were more of—letting me fulfill whatever—to gain opportunity to fulfill however far I wanted to go. I think that was the most crucial thing was being provided that opportunity to develop myself.

I would say the best—I have been very, very fortunate enough to have extremely giving and talented mentors [who] provided lots of time. They provided insights freely. To have that was more than anything the driving reasons that I am where I am today.

Incredibly supportive. I think that is the biggest thing... Out of all the cousins, it is always driven by the families and whether or not that parental unit is encouraging of it. Family is a huge part in providing that encouragement. But I also think providing that stability. One of the biggest challenges most Native American students is their uncomfortability of leaving the reservation and family units to go to school by themselves. I think, although challenging, if you continually have that support even if it is from the phone, I think having a strong support from family is really the critical component. And also providing a surrogate family whether that is through Native American clubs or things like that. I think that closeness is really critical in maintaining success in academics and other schooling.

It definitely changes your perceptions of reality or your priorities. Your priorities shift entirely... Everybody talks about you have kids and that becomes your whole world and yet to succeed in an academic field, especially at the doctoral level and beyond, your priority still has to be focused on succeeding and to be accomplished. So now it becomes more of a little bit of a tugging war more than what I would have expected or initially thought. You have obligations that you know you need to meet to reach that end goal. But on the other hand, you want to reach that end goal even more now because you are trying to accomplish something for not only yourself but for your family and kids. There is a sense of pride getting to that level and meeting that goal... You want to leave the place as you remember it or even better. I think that is a really big part—once you have kids you start thinking beyond yourself and thinking about the future. I am doing this because I want to but it means a lot if my son sees bison running across Fort Peck. It broadens your views to a lot of different things.

Secondly, is funding support both from Native American sources but as well as
university sources... Because the Native American student body in natural resources field is so much smaller. You have decreased competition for those funds. That was definitely is a major benefit in my circumstances. Whether or not I feel like that is fair across all students, I question myself whether I actually agree with that or not.

On a negative side, I would say the biggest challenge I had would be... the transition from community college to the university. That first year and a half academically was very challenging because the expectations were much different; the speed at which things are moving is much faster in the classroom. So I really struggled there to catch up in a way because it was—because of sheer numbers of students the faculty cannot provide the same one-on-one as you would get in a small school like a community college. I think that would definitely be the biggest challenge I saw coming from where I did to where I am at now.

I think there is so little time and so much of a directive to meet these certain obligations that there is not—there is a strong incentive and there is not a lot of capabilities of temple framework to permit these faculty to incorporate that unless they are specifically directed to do it.

Especially in natural resources, I think it really is a missing link. Primarily if you think about—I deal with the idea of wildlife being not understanding tribal boundaries and reservation boundaries and first nation lands and yet our management paradigm on one side of the board and the other side of the board are very much different... For any students [who] did not grow up with that understanding and wildlife it seems like 50% of students are out of state and a large percentage of them are from urban areas [who] have never ever experienced or visited or know much about a reservation let alone a management structure for natural resources. One may proceed into the field as professionals, they have never been given the opportunity to understand those management structures and the variation of them. I think that is really short sided on that side. In particular, I think that is important when we think about Native land in the U.S. occupies millions and millions of acres... To not provide natural resources at least a basic understanding of those differences is really a weakness of wildlife curriculum and natural resource curriculum and any one research institution because they are so driven to meet objectives of research dollars and education and they have got to get this class done to get the next class done. I think it would take a very considerate push to do that. I do think it is a very glaring weakness of natural resource curriculum at these large universities.

I do not think it had an explicit impact on me. I feel like I am consciously aware of that and the negative affect that it has. I think I am more conscious of what I feel is a negative for the natural resources field because of students [who] did not come from the reservation—students [who] do not understand reservation or cultural tribal lifestyle... I think that is where the biggest disservice the university is providing is to the natural resource field as a whole because the majority of these professionals are not going to be Native American students so they do not have any comprehension of what that means and how to incorporate both traditionally (inaudible) but also understanding how tribal politics work, how does tribal treaty rights works, how does tribal sovereignty work. Not understanding those concepts can be very detrimental to management structure and also management decisions and just building bridges between these different agencies [who] are responsible for managing natural resources.

I think there is opportunities for cultural collectiveness, if you want to call it that. I think there are especially at schools like [the university in my state] where there was a strong Native American student body and a strong presence from the administration
to at least try to provide those opportunities... There was nothing to drive that idea beyond keeping kids enrolled in school. There was no reason for them to go beyond that point. All the administration was interested in saying—they wanted a feather in their cap. We have got 3% Native American student body and we have got a 70% recruitment rate on them. We are doing our job. Bringing that full circle into students beyond the Native American students has really failed at the university levels.

**T17-21**

There are benefits and cons to it. I think there is a lot of both logistical and financial support for Native American students provided by a lot of different avenues. That is definitely beneficial... I went directly to a community college close to home because of I wanted to be close to home and in a smaller school because I did not think I would feel comfortable going straight into a large university. I made the conscious decision to go to a smaller school to allow for that transition. I would say that that would probably be the biggest challenge for either Native or non-Native students from a small rural area is to go straight to a large university. I think there is both pros and cons; I think those are the two biggest ones.

**T17-22**

I think it provides a really unique opportunity and understanding of what it means to manage our natural resources. I think having a cultural understanding of our historical perspective on natural resources management, allows you a wider lens and an ability to think outside the traditional western science views to really put forth some ideas that are both acceptable socially and culturally from a number of different angles whether that be western science or culturally sensitive understandings. I think that plays a huge role in being able to bridge those gaps between social and cultural communities [who] otherwise have a very difficult time interacting and compromising of certain issues.

**T17-23**

Outside of the fact that they are culturally important projects in a sense that my Master’s being worked on bison restoration in areas very close to [two Indian reservations in my state]. My Ph.D working on predator/prey relationships particularly wolves which part of the re-induction of wolves took place outside of Yellowstone as part of the Nez Perce process. I think there is no direct link to that outside of that—these are both very much significant projects in the eyes of tribal people. Now I am currently involved as a consultant with National Geographic working on Yellowstone bison issues as it relates to tribal rights and tribal issues related to bison and how that fits into that management paradigm.

**T17-24**

I would say that it is not related to the academic thing—I think especially a school like [the university in my state] has the possibilities of really becoming an institution at the forefront of this kind of discussion because of their geographic location, because of the connection to the different reservations nearby and because of the administrative structure that is already been set up with different offices designs to address these kind of questions... I think making them aware and getting the right people on board to push these ideas is the next process... I think the outreach of that and getting it to the right people should really facility a really unique understanding by students coming out of those programs in the future and what that means for natural resources.

**T17-25**

That is a whopper one. (laughs) If I was going to design that curriculum, I think you could take the setting of what [the community where I earned my Bachelor’s degree] has now with a lot of the extracurricular opportunities and meet and greet things. But from a curriculum standpoint, I really think there needs to be early incorporation of a freshman level class—[the university in my state] has careers in natural resources course. I think that course would need a one or two week session or component that really looks at—maybe it fits to the end talking about how does these careers—these careers are available both on tribal land and non-tribal lands; what are the
differences? Not necessarily showing you that you can go after those jobs but to make students aware early on in those careers that there are a lot of differences in how these places are managed based on whether or not they are tribal lands. Also explaining why they are different. I think telling somebody they are different is one thing but I think really being able to explain why they are different that is a crucial link that has to be made. It does not have to go in depth about tribal sovereignty rights. Just talk about the history and maybe not even the difficulties. I do not think you want to focus on the difficulties of working across these boarders but the benefits incorporating these places in your management structure whether it be wildlife estimates or natural (inaudible) or other kind of factor. Talk about why we care about this either massive amounts of land that are in large parts untouched and are still kind of in a more natural state. They provide really good benefits but also from a cultural standpoint, the Native American ecological understanding has values in that its longevity of what we know is there. Making a link and showing them that there is lots of research out there now that Traditional Ecological Knowledge and western science are many times converge and will give you the same answer... Allowing students [who] are interested to at least have the opportunity to gain more knowledge about those circumstances and what that means... I know a lot of the universities are starting to incorporate these. They are in Native American studies or they are in fields that are more in—they are not science fields. They are more sociology fields and things like that that are trying to attract people from natural resources in the biological sciences. I think this needs to be a directive from the biological science saying this is important on our end and we want our students to know we think it is important so we are going to offer the class.
Table 18
This table is for the idiographic analysis of Interviewee 18. It is comprised of excerpts from Interview 18 that describe her experiences during her pursuit of multiple degrees in the field of natural resources.

| T18-1 | Where we grew up mostly during my elementary years and junior high and even high school years, [was in the Pacific Northwest]. [My childhood community] has what used to be called Marine World... at least once a year, we would go [on a school field trip] and visit at least one day out of the year to Marine World... I [was] just interested in marine life in general... when I was in junior high we went to go and visit some college campuses. The two that we went to... were both fairly close to [my childhood community]. My original intention was to go to [one of those institutions] to go to veterinary school because when we went there and visited, one of the tours that we did was through their vet school. I just thought it was really cool because their vet school in particular dealt with large mammals and I just thought it was a really cool thing to do. I wanted to work with wildlife and I just had this fantasy that it would be really fun to work with animals. |
| T18-2 | My original intention was to go to school to become a veterinarian... I did not know anything about college, how to apply, and what degrees were available so after I graduated, I did not really think about where I wanted to go or even how to start that process. Then my mom had just started attending [my tribal college] during my senior year of high school, so she was the one who said, “Well, you need to do something, so why not you just start at [my tribal college].” That is where I started. I went over there and I talked to [a science faculty member] and he was the one who told me, “Well you can do this science degree and then transfer to another college and finish up your Bachelor’s degree.” So that was where I got my start. He explained to me the process if I wanted to become a veterinarian and what degrees I would need to seek out in order to get into veterinary school. Then of course along the way, I got interested in some other things and steered away from veterinary school and started gearing towards environmental science and ecology. |
| T18-3 | So when I first started [at my tribal college], I had just had my daughter and I did not really think about what a vet science degree entailed as far as how much work was going to have to be put in, how many hours I would have to be essentially away from my daughter and I was a single parent. So it came down to the choice of whether I wanted to continue to pursue a degree that was going to basically eat away precious time when my daughter was young. I started getting the feeling that the path that I was on was going to really take away a lot of that time that I wanted to spend with her so I started exploring other avenues that were not quite as intensive. I always did well in science so I just got really stubborn and really wanted to finish my science degree mostly just because I had started and that was my mindset at the time, so I was like, “I am just going to finish it whether I go in this field or not. I want to say that I finished it”. So I finished at [my institution where I earned my B.S.] doing my fisheries and wildlife biology coursework, but by the end of that coursework, I started seeing more of a need for, not necessarily for me to go out and be a scientist but for me to go back and get other young kids to see science as an option for themselves. I had gotten involved with the Native American Science and Engineering Society and another group called SACNAS, which is the Society for the Chicanos or Native Americans in Science. Along the way I met up with [the] Ecological Society of America (ESA) and they had their SEEDS Program... I was really good at organizing activities that revolved around science that involved youth and got them interested in looking at science in a different way. So that is why I say that I started switching gears and because of the work I was
| **T18-4** | Doing with AISES (American Indian Science and Engineering Society) and SEEDS, I started seeing my daughter enjoying those things to, so it was always for us to bond and we just came and did a lot of the activities with me that I was planning for our groups. Then I started to enjoy that type of work. So that is why my gears started shifting away from going strictly into your research science. |
| **T18-5** | When I got involved in the student groups I found that there were some other avenues that I could take where I could still be connected with science and I could be doing something that was not as time-consuming and did not require that I leave my daughter out of it in order to complete it. Like I said, the two that I mainly attribute my choices to were AISES because that is an organization that really—you go there and they have that feeling of “home.” When you are at [my tribal college] you see everybody who is very similar to and have very similar backgrounds and have that cultural connection to and that is the same thing with AISES, it is a place where everybody is not studying the same things, there are things that you all share with each other. There are experiences that are unique to Native Americans that when you get into a place where you can express that and feel supported, it makes you feel really good so you keep on going back to recharge yourself so feel like, “Am I doing the right thing and am I on the right path?” Especially with their conferences because then you get to gather with other like-minded people who share a very similar background that you do. Then with SEEDS, they had some really phenomenal staff when I first started and I think they were extremely good at supporting you in any way they possibly could to get you to stay within the field of ecology. I think those things hooked me. I knew I wanted to do this because it was something that as a kid I kept on thinking I want to work with animals or wanted to do something in science or be a scientist someday so that just kept on motivating me. These organizations just helped support me along the way. |
| **T18-6** | I think my location and where I grew up heavily influenced [my choice to go into the natural resources field]. I think my career choices afterward and after I had already got my Bachelor’s degree, that was heavily influenced by my tribal culture just because—I too was learning along the way about our traditional ways and the way that in our world view and slowly breaking away from just thinking along that “western science” perspective. As I became more involved in AISES and the SEEDS Program I got into a lot more contact with people who had grown up with these worldviews. That started to influence which direction I really wanted to go and that absolutely did influence my Master’s program and the where I decided to go once I was in that program. |
| **T18-7** | I feel like the field of natural resources is a natural setting for [Native Americans]. I am not trying to romanticize us Native people and be like we should all be natural resource managers or that we should be in the natural resources field but it just feels like if you are Native and you already have that mentality and you really like being connected with the outdoors, getting your hands dirty and being hands-on, it is almost like a perfect fit because it comes really natural to want to care about the environment and... wanting to do something to make a difference. There are plenty of other things that we can do really well too but I just feel like for myself, it is just a really natural fit and you just feel like you are doing the right thing when you are working in that field. |

| **T18-7** | [My choice of institution was] more so that was for my mom. She just did not want me sitting home around not doing anything so she was like, “Why do you start taking classes at [my tribal college] and then if you want to go somewhere else you can go somewhere else after that.” She was the one who encouraged me. Then I went up there and signed up for classes then [the science faculty member] took me in so that... |
was those two people who helped me to make that decision.

### T18-8

I picked [the university where I earned my B.S.] because of its location... somebody told me about American Indian Student Services at [the university] saying how they have a really great support system. They told me that is why they would pick [the university] over [the land grant university in my state]. When I came up here in the summer before I even got on campus I went over to the American Indian Student Services and... it was a little homey environment and that is what drew me to [the university where I earned my B.S.] was that they were very welcoming and helped me get set-up and made sure I had everything in order before I even got to campus in the fall to actually start classes.

### T18-9

I grew up in [the Pacific Northwest] so when I started looking for a Master’s program I was actually hoping to get into a school on the west coast... because that is where I had grown up. When I had gotten the acceptance letter from [the university in the state I grew up in] I knew I was going. I just had to get back over there and reconnect again. It was a nice couple of years of doing my work but then also being able to be close to my other family [who] still lives out there.

### T18-10

What I liked most about [my tribal college] was that I had got to be around people who were like me. The majority of us come from the same reservation. We all know the background and know what everybody struggles with, we are the same. You just feel comfortable there because it is just like being at home

### T18-11

I think at all three campuses I was [involved in Native American student groups]. At [my tribal college] I was part of AISES... when I got to [the university where I earned my B.S.], I was right away was looking for any AISES chapter. That was the meat and potatoes of my student life; organizing events that revolved around AISES... When I went to [the university where I earned my M.S.], I ended up being connected with AISES but I did not have a home chapter on my campus so I actually connected with the [a nearby university’s] chapter... I actually was the national senate rep for AISES while I was a grad student... My involvement in student clubs I think attributed to me being successful all the way through college and on through my masters.

### T18-12

Along the way, I met different people through those organizations that I became a part of. AISES, because I ended up being a student rep, I ended up knowing the CEO and all of his staff. Some of them I am still really close with. The same way, they are your biggest cheerleaders, “You can do it. Keep on going.” I have a lot and I feel really grateful for that. I do not feel like a lot of students get that same experience. Maybe they do and I just think I am really special but I ended up with a lot of mentors and people who were able to steer me in the right direction. In ESA, I ended up meeting [a Native ecologist]. I wish I would have been able to work with her during graduate school. She is on the east coast. People like that, you would have never met but because of the connection you made with all these other people, you kept on expanding your network. I feel really good about that. That is where I ended up and that is the people that I ended up interacting with.

### T18-13

The best part of my academic experience was making those connections with all those different people [who] I met whether it be through my academics or the organizations that I was participating in. I feel like those have been my biggest assets; even bigger than the degree itself. When I travel around, I still maintain a lot of those connections with the people [who] I participated in those organizations with. They remember you and remember the things that you did together. I feel like I could probably go to almost any state and have somewhere to stay if I really wanted to because of those connections I made along the way. Then nurture those by being able to have that shared experience of having been through college together and having had that same
Lots. I did not think that before but now that I am done with my degrees, I feel like a lot of mentors. I would not have finished if I had not had some of those mentors. [my tribal college] I know [the science professor]... he was always pushing students to keep on going. He understands. He was just a value in having a higher degree. When he sees students [who] can do it, he keeps pushing at them. I remember walking into class, I barely started college so I was not even thinking about an advanced degree. I was just going to school because I nothing else to do and had that attitude. “Dr. [insert student name],” it sounds nice but I had no idea what it really meant... he would do that all the time. He did not do that just to me; he did that to a lot of people. Just hearing that over and over again you feel like, “yeah, I can do that. Why not?” The other one at [my tribal college] was [a math professor]. I do not know how long she stayed there but I know the two years I was there she was my math instructor. She was really supportive of me going on past [my tribal college] and actually going to [the institution where I earned my B.S.]. She was the person who actually nominated me for the Gates Scholarship; I got it. I think she ended up leaving the same year I graduated. I was so glad to have had her be my math instructor. I do not think I would have enjoyed math as much if I had somebody else. I know for sure I would have failed out of the math classes at [the institution where I earned my B.S.] if I had not run into those people. When I got here to [the institution where I earned my B.S.] I had [a staff person]... she works at American Indian Student Services... She is like a mother hen; she will keep on you. If she sees you in the lounge and she knows you are supposed to be in class, she will be like, “What are you doing? You are supposed to be in class.” She was a great lady. I ended up working at AISS for work study. I ended up getting close to a lot of the staff members. They all play different roles in how they kept motivated and kept on being supportive when I did not feel like doing anything anymore. And then I had my advisor. Some students are like, “I only meet with my advisor one time a year or one time a semester. That is it. We just go through my schedule and then we move on.” But my advisor was really a nice guy. I guess for some reason he always ended up with a lot of the Native students [who] were going through the biology department... He was a great advisor but beyond that he was like, “Hey, I know that this is going on. You should get involved in that. Get involved in different organizations that we are doing on campus to help you boost your chances if you did want to go onto grad school.” Different people [who] you could hook up with to do research with and stuff like that. He was really supportive.

They were really nice to me the whole time I was at [the institution where I earned my B.S.]. I did end up working with [my advisor’s wife who was also a professor there] a lot on some of the different projects that she did. She was always getting a hold of me or [a fellow Native student], “You should come and do this.” Those two are awesome.

I think the more I start to become aware that there were these alternative viewpoints and alternative knowledge sources, I absolutely do feel like that changed the way that I saw, especially science, and in particular the Native sciences vs. western sciences viewpoints. Figuring out where both of those meet in the middle and that has led me
down the path that I am on now of just being able to help other people to figure that out too. Learning how to appreciate Native science, ecological knowledge, and also being able to not only appreciate that but then see where it meets western science and how a lot of the things are exactly the same, but they are just explained to us in completely different ways.

When I went to the [institution where I earned my M.S.], I felt like I did not ever feel compromised with the classes I was having to take in my Master’s program. I actually felt really welcome to pursue whichever avenue of environmental management that I wanted to. In my particular project, I did this evaluation of how to better incorporate the Native beliefs into environmental management plans. None of my instructors had any experience in working with natives, but they were really supportive of it. They were like, “I think this is really interesting with a different take on it so, yeah, I think you should do that project.” I do not know how other students do in their graduate studies or if they run into those problems. I have ran into some people who do say, “Oh well I would like to do this but I do not feel like there is enough information on it.” They get discouraged really easily because there is just not enough literature out there and there is not enough research that is already been done for them to get a good standing in order to get a project approved. I can see that being a problem, but in my particular case, I did not really have an issue because my instructors let me go ahead and have at it.

[Tribal people] was the basis of my Master’s project. It was looking at ways… federal agencies like EPA, Forest Service, and Park Service, when they work with tribal nations whether or not they actually incorporate traditional culture and Traditional Ecological Knowledge into their management plan. So that was the basis for my Master’s project was just to see if anyone was even doing it and if they were, who was doing it best and how can we translate that into other agencies working the same way. It was fun but it was a lot of hard work just even finding agencies [who] did that work. A lot of that stuff that I did find all revolved around this whole issue of climate change. Now all the sudden everybody is going, “oh shit, we are in deep doo doo here. We might not want to be friends with these guys but there are some places that are doing better than others and the places that are tend to be places that indigenous people live. Let us take a look at what they are doing right.” The other flip side to that is, “holy crap we are really hurting people moving in these remote areas [who] are still trying to live traditional lifestyles.” It was interesting to do that little bit of research. It did not feel like very much but I ended up feeling like I came away with a lot more than I had known before I even started. The other project I worked on were usually with [my tribal college science professor] and they were like summer projects where... I was more of the data collector not so much the main researcher... When I lived in [my tribal community], I would still do something that was science related.

I know for my Master’s project if I did not have something that related to me, I do not think I would have completed it. I do not think I would have been interested in wanting to complete it. So when I picked my project, I specifically was like, “I need something that has to do with tribal/cultural knowledge.” Living in the city, again, you forget; you are no longer connected to your home community so you do not get that same feeling. You do not get to go hang out with people you know and get rejuvenated again... I think it absolutely made a difference in whether or not I completed my masters. For my undergrad degree, it did not really matter so much because here on campus we had that support system. I did not necessarily need to have it in my academic curriculum; I had it in my social life. That is what made a huge difference in me sticking around and continuing and to graduate. There were people from back home but there
were also other natives that... became a secondary family; everybody knew everybody, everybody hung out. When you were not studying or taking tests then you were over at the center, hanging out, eating soup, or having a taco, just living life and being able to fill like a part of a smaller community.

It was not until I started doing my Master’s, I got to pick what I wanted to do a lot of my work on. That was the first time I felt I could actually incorporate anything from my own culture into research. Prior to that, I felt like I do not have a choice. You just have to do what the mainstream discipline is doing. It was not until after I started going to ESA meetings and being able to see that there were other people who were like, “screw it, I am going to do research the way I want to do research and I want it to impact my tribe so if it is not already done I am going to make it get done.” That is what I admired about those people who were doing that. It is a lot of work. It takes a lot of breaking down barriers that I do not think were intended to keep natives or other minorities out. It was intended to make white people very successful. That is what it does; those disciplines were created by old white guys and were made for other people who think like them. In order for us to change that then we have to infiltrate that system. It is unfortunate that a lot of major universities do not deviate from their disciplines like having them a certain way. They do not really allow for a lot of that wiggle room of being able to incorporate different ways of teaching and different ways to incorporate Native knowledges, maybe not just Native knowledge but minority perspectives in general. I think as more people become professionals and when we see more natives, Latinos, African Americans all get these advanced degrees and now some of them are actually coming back to teach. Then you are starting to see a little bit more of students being able to identify with that discipline and being able to say, “hey, if that person can do it well then I can do it too.” The system, the way it is now, does not allow for people to think differently or to feel like it is a free place to bring your culture into. I think the other part of it is it is hard to have to be the one teaching other people. When I say that, if you are going to school and you are a student and you are trying to learn the discipline itself, why is it then also your job to inform the instructor that there are these areas where they could be inserting minority perspectives. I think it is pretty tough for almost all minorities to be able to have to be disciplined without feeling like they have to leave a piece of themselves at the door every time that they go to put on their research hat. Hopefully it will change. As I see it right now that is how it is. Everybody accepts that when you are doing research you have to leave some of your culture at the door and not bring it with you. When you leave your research then you can go back to being yourself. That is unfortunate. I think that is one of the major turn offs at least for myself was feeling like you always had to constantly choose which one you wanted to be. And then constantly fighting that battle of having to prove to other people why it is valid and why it is important in life and other people should value it as well.

When I transferred to [the institution where I earned my B.S.], there was that initial culture shock of 1) just not being able to be around family [who] you are really used to being around 2) The other part of it is being thrown into this mix of predominantly white classmates... Especially... in science, you tend to be one of the only minorities in most of your classes. So like here at [the institution where I earned my B.S.], fisheries and wildlife biology was not only predominately white, it was predominately white and male. So a lot of the times, I found myself being like one the handful of females and then, of course usually being one of the only minorities in the classroom. I can pass for being white just because the color of my skin, but my mentality and the way I was brought up is totally different from the way that I see most non-Native students. So a
lot of times, the things that we did in class, the things that were just expected of you in your science curriculum, did not always mesh well with your belief system. I think one of the things that was really hard for me was some of the experiments they did. I was always excused because they just did not want to challenge me as far as, “She said she is Native so we are not going to challenge that because [the institution where I earned my B.S.] at the time was under a lot of scrutiny because of [its Native American] logo. I think some of my instructors and even some of my classmates tip-toed around me when they found out that I was native. One particular class is an example that I can think of when my beliefs did not mesh well with western science beliefs. There was this anatomy and physiology class that we took and there was a lab associate, and you would go in every week and we would do these... really cruel experiments on frogs, turtles, and mice. There were at least three or four labs that I just said, “I will observe, I will take notes, I will give you your report, but I will not participate.” The instructor was like, “Oh, okay.” He was like, “Can I ask you why?” I said, “Well because I am just going to be frank here. I do not think what you are doing to these animals is respectful at all... I do not know why we would have to keep on doing these really antiquated experiments on animals when we already know what happens when we do these things to them.” I said, “Then we just kill them like they are nothing and we throw them out and discard them like they have no value.” He was like, “Okay, well I can respect that. I understand. I will let you go ahead and do your reports and stuff.” He did not dock me any points or anything but I could tell that some of the students were like, “Why are you not participating or why do get away with not having to do any of the stuff...” I really do not give a crap if somebody does not like what I am doing. If they have a problem with it and they wanted to say something, I would have been fine answering them, but not one of them asked me. They just kept looking at me like, “Why does not she have to do it?” So, I mean, to me that is where sometimes I feel like that can be a real turn off for Native students... I did not grow up strictly traditional and my parents did not necessarily instill a lot of the traditional values, but they instilled enough of them that I come in with a bit of a different perspective, but I feel really bad for the Navajo kids when they come and they want to be doctors and they have to go through all of these biology courses. Then they have to do all these experiments or do things that go against their traditional teachings and then they have to compromise. They have to go home and get some type of ceremony done so that they are allowed to do certain things or they have to drop out and choose a different career path. Those are unique struggles to Native students that most non-Native students do not usually have to deal with.

Here at [the institution where I earned my B.S.] there were not very many [Native faculty]. Definitely not in my science classes; I never met anybody [who] was native, which is sad... I did take a couple of Indian Studies courses [but], I did not take classes with [the Native professor]. I am not really fond of him. He was always involved in all the Indian related programs. You had to interact with him anyways even if you did not want to. He was okay. He is Native but he is one of those guys who act super Native when they are around other natives and they try so hard to fit in. They have those inside Native jokes but then he comes off sounding like you are just trying hard. And then when he was around non-natives, he would be the token. I respect him because he is older than me but I guess I did not respect the attitude he had and the person [who] he was... So he would always piss off somebody from [my tribe] and they would come back to AISS and they would be bitching about the stuff he said. And then everyone would be like, “What the hell is he talking about? Who the hell is he? Where is he even from?” He is like Chippewa from somewhere over [east of here]... Before he
got to [the institution where I earned my B.S.], he worked for like a decade or so down in [another reservation]. All of his Native stories had to do with being from being from [that reservation] and all the kids [who] he worked with down there. His wife was non-native. He acted very non-Native a majority of the time. He would upset the hell out of almost every person [from my tribe]. I think we talked about that before how these Indian study programs in these departments, sometimes they are just a disservice to our people. It is hard to understand why they even have these programs if they... do not seem like they are very serious. From an academic standpoint, I guess they meet the criteria. [A Native professor] was up here a few years ago. She writes for Indian Country Today. She has this great journalism and English background. Her and this non-Native guy both applied for the same position at [the institution where I earned my B.S.] as an associate professor. She actually had more credentials and was Native and she got beat out by this non-Native guy. I am not sure why exactly but everyone speculates that a lot of times, in the past, it was because of a logo issue... [She] had no problem about being very vocal about how she did not support the logo. Unfortunately, she did not get the position but she was a great instructor. They offered her an assistant professorship for this one year. She came and taught a few students. She was the best one at describing why these Indian Studies departments do what they do. Her take on it was when you talk about Indian Studies like at tribal colleges, it has to do with their own culture and they have so much to be able to actually share and they are knowledgeable of it. You can have several classes that are taught by people who actually know what they are talking about. Then when you go to these large institutions, they have certain criteria that they have to meet so they almost have an anthropological [perspective]. Their whole thing is like third party looking in on us and as a subject to be studied. Whereas, when we are back home and we are taking what we consider Indian Studies classes, they are classes that legitimately teach us about who we are and where we came from and the types of activities that we do. She was like, “I really do not know why any Native American would come to a large institution and want to get a degree in Indian Studies. Because it is not what you think it is; it is never going to be what you guys expect it to be.” Those are the only instructors at [the institution where I earned my B.S.] [who] if they are Native that is usually where you find them. There is a few [who] work in the Psychology Department. I know the Nursing program has a couple... The best thing with [the institution where I earned my B.S.] is that we have so many Indian-related programs that is why we end up with so many Native students. A lot of times it feels like they are programs that we are putting on paper because they bring in lots of money. They were not fully thought out. I am not saying anything bad about the Nursing Program because I think that is a really good program but when you think about In-Med and In-Psych are the two programs that do not crank out as many successful graduates as they would like to. Part of it has to do with that cultural disconnect and not understanding what the needs are of these students [who] are going into [that fields that are in] opposition against their upbringing.

The worst part in the academic experience... was mostly at [the institution where I earned my B.S.]. I was here during the most brutal time of the logo issue. I felt that sometimes, I could have easily shut my mouth and not said anything and I probably would have had a very pleasant experience; but I know inside I would have felt really ugly. Because I voiced my opinion and because I was pretty outspoken about being against the logo, I felt like I made myself a target. Because of that, I have had some bad experiences. Not all of my experiences were awful but some of the worst exchanges I can remember revolve around that logo. Once it was gone it was not like, “oh it is all
There was a lot of fall out because of it. Still even like last year, we still had issues. I am not even student anymore but I feel terrible for the students [who] have to deal with ignorance and racism and people saying, “Do not be so sensitive about it.” They are not the ones [who] have to deal with it and they are not the ones [who] will ever connect or understand what that experience of being generalized and being made out to be, your opinion is not as valid as somebody else just because it is not part of the majority. That logo issue really taught me a lot but it also hurt a lot. Not necessarily me directly, it was watching your friends be hurt and not be able to do anything about it and not be able to find any justice for them and not make them feel any better. Then watch them walk away and never come back because they did not want to deal with it anymore. Those things were probably the worst for me.

It was definitely the people I surrounded myself with. The support group [who] I chose to have made the difference of whether I stayed or not. Knowing that they were going to be there the next year made me want to be there right beside them and still go to class and finish my degree even though I knew there were going to be ugly things that came up during the year.

[My mother] was a product of boarding school, so she was thought that you learn English, you do really well in western schools and get yourself your degree, and then you can do anything you want. That was her attitude towards us too. She did not speak her [native] language at all to us as we got older. I only remember a little bit of it when I was young. She would try to teach me things here and there but for the most part it was her way of trying to make sure that we did not feel like outsiders in our schools because she encouraged being American or assimilating. I can probably get away with it, like I said, because I am really light-skinned but then all of my brothers and sisters are brown so it is harder to get away with it because then you get asked, “What are you?” Then of course, you suddenly become the representative for all Native Americans in your classroom and now you are speaking for 550 nations based on whatever ancestry you give your teacher in the class. Unfortunately I only went to [my tribal college] for a couple of years so when I think about that incorporation of traditional knowledge or tribal knowledge [the science professor] is usually pretty good about doing that. I think even in just the basic science classes, he always brings it back around to somehow incorporating the... tribes’ culture into it and making it relevant to us like how can these different disciplines actually apply to stuff that is going to benefit us or affect us somehow. I think tribal colleges in general, because they are connected to the community, they are way better at being able to incorporate tribal knowledge, traditional knowledge and cultural knowledge into their classroom settings. Whereas these major institutions, they follow this ivory tower standards so you end up getting these really watered-down, cookie-cutter classes...

You come from a tribal college and you get that taste of what you expect Native studies to be and then you go to... a larger institution, but you get disappointed... I did not even know that there are white people who studied Native Americans as a topic. It was so odd to me for these people to be telling me what “our” culture is and what “our” history is because it is written in a book or because that is what they were taught. If they were not doing that then the other side of that angle was then they were trying to justify to us why we should be a little bit more forgiving of white people because they are intentions were so good. That was very frustrating to sit in a whole classroom filled with other non-natives and know that they were being told “yes.” Then if you challenge the instructor and they get this pompous attitude like they were the one with the Ph.D and you are just the student paying to be in the classroom so what they say goes and that is what they expect the answer to be when the test
<table>
<thead>
<tr>
<th>T18-26</th>
<th>I had a lot of issues with that. I would say out of all the classes I took, I would say the ones I took at [my tribal college] were best at incorporating cultural knowledge into the curriculum.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T18-26</td>
<td>I do not think we do a very good job of preparing Native students to go to college, especially the ones who go to school on the reservation. I feel like nobody really talks about it. Unless your parents have gone to college and they know the process, which the majority of Native kids do not have that person having a parent [who] has gone to college. It is tough because they do not even understand the big picture. They wait until they are a senior until to finally start getting serious about what college they are even going to think about or if they are going to go. I do not think our schools do a very good job that they know from the time that you are a freshman that you should already by thinking if you are going to go to college or not. If they are not going to go, are they going to go later on in the future? How should I be behaving through high school in order to make sure that I will not have a tough time getting into college and I will not be wasting tons of money trying to take remedial classes to catch up to everyone else. I do not feel like I had to do those things but I have seen a lot of my peers have to do that. I experienced that same thing where I did not even think about where I was going to go to college until I was already a senior. I should have had somebody tell me when I was a junior, “Do not forget you have all these deadlines that you need to be aware of. If you need help, I am here to help you fill out applications and do the financial aid process and take the test you need to take…” I feel very strong about that. We do not prepare our kids for college the best we could.</td>
</tr>
<tr>
<td>T18-27</td>
<td>As you learn more about your culture and your language, you start to realize all the knowledge that is encased in both of those things together. That particular worldview of seeing, we do not separate it as it being just science, like we have seen things as being connected to each other all the way around... that term Native science, we were not just scientists, we were also knowledge seekers. We were able to tie things together... more holistically than the way western knowledge does, where [western science] actually compartmentalize everything and want to keep it nice, neat and separated from each other. To me Native science says that model does not really work because we have to acknowledge that everything is connected.</td>
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## Table 25
This table is for the idiographic analysis of Interviewee 25. It is comprised of excerpts from Interview 25 that describe his experiences during his pursuit of his degree in the field of natural resources.

<table>
<thead>
<tr>
<th>T25-1</th>
<th>The love of being outdoors I guess. Growing up and going in the woods and always not understanding why stuff works out in the wilderness and that spark of curiosity to understand why stuff is out there and how it is out there and how to keep care of it. The curiosity of our culture of what we use from the woods and the natural resources sparked my interest.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T25-2</td>
<td>My culture and respect to our land and the connection to our land and what it provides for us and how to take care of it really sparked my interest as a young kid to go into the natural resource or wildlife way.</td>
</tr>
<tr>
<td>T25-3</td>
<td>When I was younger in high school, I really showed attention to or drawn to being an advanced biology or wildlife class. It caught my eye. My plan was to pursue... I did not go to school right away after high school. I moved away for some work and I was called saying there was a position at Forestry opening. So I jumped on that and started at the 8th position at Forestry, the very bottom, and was offered an educational agreement with the work. I pursued my degree in forestry while still having a job at the forestry department. I jumped on that real quick and began my degree and finished it in four years.</td>
</tr>
<tr>
<td>T25-4</td>
<td>When I had the offer to go to school and go to work at the same time, the location of work and being so close to my tribal college was a lot better than the drive time and logistics part of trying to make it to the local state university. That was the biggest concern and factor in my choice. Also, because my tribal college is part of our tribe and our education agreement did not exactly say that I had to go to my tribal college, it was just a preference of mine to choose that.</td>
</tr>
<tr>
<td>T25-5</td>
<td>At my tribal college it was great... As for the class sizes and instructor connection, that was great. Learning things a lot easier and a lot quicker, it was easier to ask questions. It was just a great experience. Being at a tribal college, there were always tribal influences during the classes, tribal point or Native American point or Native American involvement in the teachings, it was great.</td>
</tr>
<tr>
<td>T25-6</td>
<td>I am glad I chose the smaller tribal college. I am not against attending larger universities but I think the knowledge is just the same at those universities but as a smaller size. I am glad I chose that path. I not only learned more about the forestry field but learned more culturally going to my tribal college.</td>
</tr>
<tr>
<td>T25-7</td>
<td>I think in college, being at a tribal college, there was a lot of cultural involvement. That brought me back. Learn the language, learn tribal history but the campus, school itself, provides a lot of cultural experiences and not push but informed us on a lot of cultural events that kept us in the loop and made it easier to be more active in the cultural community.</td>
</tr>
<tr>
<td>T25-8</td>
<td>I have taken language classes. I have taken forest botany classes that involved learning tribal uses, tribal words, tribal names, [and] tribal meanings to other plants. I have taken classes where you looked at case studies involved in tribal knowledge and tribal relations.</td>
</tr>
<tr>
<td>T25-9</td>
<td>[At] my tribal college... tribal culture, specifically for our tribe was probably represented more than other neighboring tribes. Even though other tribes’ culture and aspects were included in our learning but the emphasis may have been more on our tribe.</td>
</tr>
<tr>
<td>T25-10</td>
<td>It impacted my learning to be more comfortable place to learn right off the bat. Just the initial “I am going to college,” “there is a lot of people I did not know,” there are</td>
</tr>
<tr>
<td>T25-11</td>
<td>Yeah, I did a pretty extensive senior thesis research was [with the] space station, using their remote sensing technology to target an area on the reservation and showing high-risk areas for high-risk fires in the wildlife and urban interface areas, and prioritizing management strategies around that.</td>
</tr>
<tr>
<td>T25-12</td>
<td>They had a huge impact, I guess. I was working at our tribal forestry while I am going through our tribal college, learning about our tribal forestry practices and ways. I would not say it was easier but it did not make it harder. It might have made me more involved... Not only looking at college as an opportunity to learn but looking at it as part of my job. I would say it made me more focused. If it was a different tribal college talking about different tribal issues and different tribal ways, I do not think it would have been easier but it may have been harder, but it would not have hit home on subjects as hard as it did going to my tribal college.</td>
</tr>
<tr>
<td>T25-13</td>
<td>Helping me out with school, with mentoring me on my senior thesis especially. They helped me go through the process and pick something out and following through with stuff, and then pushing me to do better. They would always say, “Do not stop at the minimum. Always try to get an A+ instead of an A.” It seemed like they always pushed me to be more than what I expected myself to be.</td>
</tr>
<tr>
<td>T25-14</td>
<td>Supporters and encouragers and sometimes financial providers. School is not that cheap and it is difficult, and sometimes you need a family pushing you to get stuff done and stay focused. This is an opportunity not a privilege. They played a big role in my education.</td>
</tr>
<tr>
<td>T25-15</td>
<td>The best experience was—I do not know. I do not know if I could say one best experience. It was a great environment. The best experience was just being in that environment of a smaller class and having tribal relations and involvement and put into place and show how tribal involvement in natural resource work together and go together and solidify my opinion and career choice.</td>
</tr>
<tr>
<td>T25-16</td>
<td>Time wise, we got limited to not go very far but a lot of our work was included being outdoors and being able to visit outdoors instead of looking at pictures on a projector screen. I think the knowledge that you learn is a lot better and soaks in a lot quicker being outdoors and involved with what you are learning. I think that was a huge part of being able to work with smaller classes and smaller school; you got to be able to take those trips a lot more often than as if you are working with a class of 50 and being able to do it once a semester or something. Some classes I took was two times a week you were going somewhere. I think that was a great advantage.</td>
</tr>
<tr>
<td>T25-17</td>
<td>Yes, yes, hugely. Just the forestry side of it, we did field trips—our class did field trips with the forestry program here and got hands-on experiences of the workers here and treatments and being outdoors at logging sites or sites that are getting prepped to log. Those practices get soaked in a lot better than just reading them in a text.</td>
</tr>
<tr>
<td>T25-18</td>
<td>I started at the bottom. The schooling really progressed my career greatly. Having an opportunity to go to school while learning and applying those practices and those learnings while I am in school at work, that really jump started my career and slingshot my knowledge in this field.</td>
</tr>
</tbody>
</table>
| T25-19 | Advisor, yes. My advisor... He is heavily involved with the cultural aspects of forestry and tribal organizations nationally. Not only being highly knowledgeable at forestry itself but working with him and working with a Native faculty member on the other parts of my learnings in wildlife and botany and natural resource management, working with those two, I would say, yeah. I gained a lot from working with those two
and looked up to them quite a bit

T25-20 I started at an aid position in 2002. As I progressed through school, after two years, earn an Associate’s degree and three years of work, I progressed to a tech and then after earning my degree and going through a six-month probation period, I have earned a Forester I. In 2011, I graduated to a Forester II. Just recently I was hired on as Forest Development Program Manager.

T25-21 Negative experience is writing papers; writing that 30 page senior thesis. That was not fun. I really did not have one. It was a pleasure to be at school and with the people there. I never had a bad instance where I dreaded to go to school or dreaded to go back to that place.

T25-22 I think being a Native American in the natural resource field makes me feel like an obligation to protect my natural resources culturally and non-culturally and to bettering our natural resources for generations to come.

T25-23 Yeah. All of our proposed actions—it does not have to be we willingly provide the elders with information, take them on fieldtrips to show them our ideas and prescriptions. We invite their input, invite their involvement quite heavily. With the Preservation Act, a lot of times mapping and locations are not available unless it is in person. A lot of our stuff, we really do consult with them quite a bit.

T25-24 Our manager reflects a lot of cultural values and beliefs here on our reservation. The way we treat areas, the way we stay away from areas, the way we go about (inaudible). I think it was influenced heavily by our cultural beliefs and our tribal builders and requests, preservation and stuff like that.

T25-25 Part of that I believe is not just from my tribal college attended, obviously, because one of our professionals have gone to larger universities but it is working for a tribe and having that aspect included because you are a tribal department and representing tribal people representing the tribal lands. If you are representing tribal people and tribal lands, you have to go to the tribal people to see how the tribal lands were, should be respected and treated. As a tribal department, it is one of our top priorities.

T25-26 I think it is very important. If someone is looking to work in a tribal organization or tribal member is wanting to get in this line of field, going to a tribal college or having some sort of tribal knowledge and tribal ways put into the course work I think should almost be a prerequisite. You never know where people are going to work. It is hard to say. We have non-members working here [who] went to a large university from other states. Coming here, they said it is a totally different experience, totally different mindset, or management protocol. They learn as if—they learn the Forest Service way. It is a totally different view of forestry I should say.

T25-27 As a natural resource and involving tribal knowledge into those natural resources. I would line that program out to involve plants. Tribal use is tribal knowledge of plants, trees, fish, and all natural resources. As a general natural resource manager, you could include tribal knowledge on every natural resource out there. At a tribal college for tribal kids or even non-members—that is hard to envision what I would—how I would put that program together.

T25-28 I think for any person working for a tribal government needs to know that tribe’s treaty, that tribe’s government policies, working relationships with the federal government as much as they can. Knowing tribal use policies and tribal—just knowing that documentation and procedures and that knowledge is just highly important for anyone that is going to work for a tribe.

T25-29 Besides financial aid and stuff like that, I think mentoring program of not only your peers but also faculty involvement would be great adding culture aspects or add in Native American. Involving more of a culture aspect and social society of the school
and teachings would be great.
### Talking Circle Table

Three individuals participated in a talking circle to discuss their experiences in higher education while pursuing degree in the field of natural resources. Excerpts from Participant 1 will be designated by P1 and similarly for Participants 2 and 3.

| P1.1 | I feel like I need to recharge my batteries and just go back home [to] see family at least once a month... if not more. Now that I am closer to home I feel like it is much easier. Not so much as a barrier as it has worked in my favor. Being able to just run home, pop in to family members, say “Hey”, or have people come into town and give me a call. |
| P1.2 | Being close to home, being able to go home, that definitely helps. |
| P1.3 | For me, the living situation, I have realized is absolutely crucial to success in academics. I lived in [two different communities] and in both places with really questionable... people. Finally, this semester I have got a good solid group of roommates I can rely on with pretty much anything... This semester has been very successful... if I went back and I looked at all the semesters I had stumbled, I think that I would find that my living situation was not up to standards. |
| P1.4 | The opportunities that present themselves while you are in the university have definitely kept me afloat. I have managed to feather in studies abroad between a good semester and a bad semester in terms of grades and stuff. Just different things that I am able to do, different opportunities. I worked down in Yellowstone for a few years because of [one of the support programs in my college]. I am ninety percent sure I am going to work [for the Forest Service] because of... [the support program in my college]. Those types of opportunities are so important to me. |
| P1.5 | ...the Native American Center, just being able to call it your own. |
| P1.6 | I realized later in my career, because I am striving to have a healthy mind, an intelligent mind. I think a way for me to do that is to keep a healthy body too. Being at the Rec Center, playing basketball, [and] hiking. Those things take my mind off all the stuff that goes on in class and homework and everything. I think that is totally invaluable and priceless for me. |
| P1.7 | The biggest barrier for me has been financial aid. I think I have talked about it before... I was a transfer student. At the previous school I was at I had to submit a few financial aid appeals. In that institution you could appeal unlimited times. Finally, I had convinced the financial aid office to fund me. Then when I transferred here the process is limited to only one appeal. I appealed, I sent a letter, it was about three pages. I got back in the mail a one sentence reply that said, “You are denied. You appeal was denied.” No justification. No explanation and that was so frustrating. This past semester I had to fund or pay out of pocket. I almost threw my hands up in the air and quit. That was a huge barrier. |
| P1.8 | Something huge for me has been, it has been difficult being in a classroom where... you are addressing issues, environmental issues that are... tangentially related to issues regarding Native Americans. Being the only Native in a class, they kind of look to you as a spokesperson for the whole nation, your whole race. That is off-putting. |
| P1.9 | I had not performed very well the first time I transferred. Before I had gotten an advisor they were looking over my transcripts and this person... said, “Do you have any learning disabilities?” I had to bite my tongue. It could not have been that I was from a reservation, that I had a hard time adapting to new cultures. It could not have been that... there was all these cultural barriers. It had to have been I had a learning disability. That for me was a barrier. |
| P1.10 | You reminded me of something with the advisors (referring to comments P3 had made). I had a similar situation... I definitely realized I needed to switch advisors and then once I did, having a person [who] was really engaged definitely helped. |
### P2.1
I have a really good advisor... She probably lost a lot of sleep on it, but she had to go through major hurdles along with me. She tried to brush me off and I said, “No, we are in it together.”

### P2.2
All the advisors in [my college] have been wonderful: the dean, assistant dean, the instructors, they know my struggle... [Our college’s Native support staff member] has been a blessing... I had tried many times to go into my advisor and she was just too busy. No matter how busy [our Native support staff member is], she always makes [time] for people.

### P2.3
I have my family here. I have my youngest son [who] will be graduating the same time I do... My oldest son, who was in prison, he got out and I got him back on track. Now he is going to join me in school here in the fall... I have a lot of grandkids... I do not have much family back home anymore. My mother passed away. I do not get home too much.

### P2.4
I have to agree with the opportunities. I am squeezing in [a study abroad experience] in the... winter session. That will get me out of here on time.

### P2.5
I ran into a lot of negative stuff through financial aid. Me, I have to speak up. Otherwise, it hurts more. I would say, “Did I do something wrong? Did I offend you in some way to make you treat me really bad?” And then it kind of wakes them up. I am starting to get more help over there than I was.

### P2.6
The Forestry is becoming like family, like another home.

### P2.7
I feel safe here now.

### P2.8
Then I got another letter saying... “Your appeal letter had been approved.” And I had not written an appeal letter... I met with [the director of financial aid] and asked him, “Can I see the letter that I wrote you?” And he said, “Oh, I just took it upon myself to determine that you were okay.” And I said, “But that is not fair because the other Native American students are getting letters of denial and they have written five to ten pages, some of them. And I have never written anything and you just approved me. I would rather you throw me out of school and let me do it like everybody else.” So, I know their system is not being run right. I need to be changed.

### P2.9
Like I said, on the appeal thing you went through (addressing P1), you are more than welcome to use me as an example. I felt like writing an appeal letter to [the financial aid director] on the appeal letter that I did not write because I do not think it is right... It is not right for a person of authority to mistreat that authority. What is good for one needs to be good for the other. I have been dreaming about this appeal letter, appeal to my appeal, that is what it is going to be titled.

### P2.10
As long as I can stick it out and not leave and try to help the students coming in, the Native students coming in. Man, I pity anybody, if they do not talk back, they probably just quit. I have a bad habit of just getting it out there one way or another, whether I cry through it or yell through it. I pity any Indian students [who] come here [who] have to jump all these hurdles, any normal person... because any normal person would have quit...

### P2.11
Every day I want to quit, but every day I want to show them that I can do it because I have done fire. I have been in fire for over fourteen years. I love the work. I love the forest. I know my reservation needs an urban forester and that is what I want to do.

### P2.12
My biggest barrier was... age. I started here in 1972 when I was seventeen years old. Then I left and came back in ’74. Left again. Went to [another university] and have been away from this school since ’74 but out of college for... nineteen years. Coming back to college, everything has changed. I am older. Just everything is tougher. I do not think there is one person older than me in any of my classes. I am sixty years old.

### P2.13
The financial aid part of it. I came here, was accepted into the school, and then all of a sudden, one week later I get a letter saying, “Congratulations, you are on the honor roll. You made the honor society.” The next week I get another letter saying, “Hello, you are on academic suspension.”
My GPA, I struggled so hard after so many years to get my GPA up.

Every semester that I attend here I am going to be on academic suspension because of my GPA. In 1974, I had to leave, emergency leave. I was in an accident. That is going to haunt me the rest of my life and there is nothing I can do about it.

I have worked construction and worked homeland security. I have not been in a classroom, study-type need, learning.

I also have a learning disability.

I have PTSD. A majority of women [who] come from reservations share the same problems I went through. It gives me a learning disability.

I am in [disability services] here at the university. I have run into more prejudice.

I went over [to disability services] for a test. The woman was so rude. There was a couple of math conflicts or test conflicts. So the math instructor got there before me and told them that I was going to change the class date. I get in there and there are four non-Indians all standing in her office and it was packed. A girl came up behind me, she calls her in, in front of me. The girl says, “Oh, I need to reschedule.” “Oh yeah,” the lady behind the desk says. “Oh yeah, go ahead. What day do you want?” all happy, smiling. The girl tells her what day and she walks out. [The lady behind the desk's] face goes from a smile to an absolute frown. She starts yelling at me in front of all the people in the office about how she has four hundred students to take care of and I need to be calling ahead. I said, “I am just here to take my test. [My math instructor did not] come in this morning and tell you?” She said, “Yes, she was, BUT.” And I lost it. I said, “Why in the hell, every time I come in here you treat me like shit?” She said, “Because you are the only person [who] is always late.” I said, “Out of four hundred students? I am the only person [who] is always late? I am never late. I am always here. You guys make me sit out in the office waiting for you to get caught up. I am never late.” It went from bad to worse because she continued to yell. So, I started yelling. Everybody scrambled. Everybody ran out of the office... I wanted to jump over the desk and drag her out by her hair but I did not... This woman put something in me that was just unnatural. I did make it through that test that day. But the next day... I could not even turn the doorknob. One person almost destroyed my whole career because I could not finish. I could not walk in the building. I had to call somebody to take me to the hospital. I missed everybody’s programs. Missed everything that was important, all because of one person. The person [who] is in charge of that department over there, she takes me in, this was the third time, this was not the first time, it is the third time. Twice this semester, once last semester. I do not know of anybody else, any other Native students [who] have to go there, but I missed every exam this week. That is why I am taking classes on Monday after finals because I could not walk in there.

One of the professors in in my college, he did the same thing to me. Yelled at me. Wrote me a terrible message that he has other people to accommodate. It was just bad. I have not been back to his class since. I am going to fail his class because of that. It is hard.

I have a lot of barriers. I have no only a disability, I have female, I have age. It is tough.

I think overwhelmingly most of the faculty [who] I have had [in my Master’s program] have been awesome. That has been a huge component of my success and staying in school and being here and being interested in pursuing higher education is because a lot of the faculty I have worked with or taken classes from have been really, really supportive of me. I am thankful for that.

In contrast, my advising in my undergrad and my advising in my Master’s program has been phenomenal. I think I have had so much support.

A unique understanding of where I come from and who I am... That has been huge. That has been a major component of getting through this successfully.

One the flip side, another huge component of me being successful has been the financial
support through Sloan. That is really huge. It really helps a lot.

P3.5 One barrier that I have faced just broadly is definitely being away from family has been tough. [My home community] is not that far away. I would like to see my family a lot more than I can, be back and forth.

P3.6 I do not know if I have told anyone but my parents about [one of my barriers]... When I was a sophomore... I got this... fellowship award or scholarship award. It was for eight thousand for over four years, which is a lot or was a lot to me. During my sophomore year, over Christmas break, somehow I missed a renewal deadline to renew it... They said they sent me an email. I could not find it. I appealed it because they cancelled my scholarship. I appealed it and met with whoever at financial aid. Met with them multiple times and said, “I did not realize. I totally forgot about the deadline...” [I] was met with pretty much blank faces and ended up losing four grand because of it, which sucked... I just felt like the person basically made me feel like it was my fault for not renewing it. I was like, “this is a scholarship that I earned, how could it be taken away from me for spending too much time focusing on school and not seeing a notification to renew it?” That was one story that was really frustrating.

P3.7 I did not know who to talk to about it. I did not know what avenues I could take to try to change that.

P3.8 So I was in the Environmental Studies program and the Native American Studies program at the same time. My advisor for my Environmental Studies program, my first advisor coming to school, was pretty much completely uninterested in anything I was interested in... It was frustrating because I had an immediate comparison too because I would go into my advisor in Environmental Studies and talk to them about what kind of things, issues, I was interested in and what kind of classes I should take... [I] just got the straight process, paperwork response mostly. Total lack of enthusiasm or interest in who I was or what I was interested in. Then I would go to my advising appointment for Native American Studies and it was exactly the opposite. The person was super engaged, really interested in who I was and what I was interested in and helped me a lot in finding ways I could maximize my time and money, taking the right classes and etcetera. I switched advisors in Environmental Studies after a year and a half or two years. It was a little bit better but not that much better... Still I was faced with someone who did not have the time to give me even though I was interested in... really similar issues and things that he was interested in so I did not understand why they were not nearly as engaged as my other advisors in the other department.

P3.9 The classes that I took in the field... were some of the most valuable classes that I took. I think it really remotivated me to be in the classroom. I wish I could have done every single class in the field. The ones that I took were really valuable. I wish there was more.

P3.10 The other thing I wanted to mention is how much I have enjoyed having the Native American Studies building on campus. It has been really valuable to me personally and also to the Native students on campus. I know it has. Just having a space where you can feel grounded and quiet, and be in a place with other people with similar experiences has been really cool, really valuable.


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