"Counting Experience" among the Least Counted:

The Role of Cultural and Community Engagement on Educational Outcomes for American Indian, Alaska Native, and Native Hawaiian Students

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Introduction

American Indian, Alaska Native, and Native Hawaiian (AI/AN/NH) student populations are seldom included in large educational studies at the national level; these groups are often too small to be included in national surveys in the United States and are often deemed "statistically insignificant." One exception to this is the National Indian Education Study of 2009, which reports on an oversampling of American Indian and Alaska Native fourth- and eighth-grade students' performances on the National Assessment of Educational Progress in Reading and Math. Although that study provides relatively large sample sizes (approximately 5,100 survey respondents for the fourth grade and 4,200 survey respondents for the eighth grade) and is nationally representative of American Indians and Alaska Natives, it is limited to only those two grade cohorts.

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Our objective was to undertake the creation of a data set that would "count" in quantitative discussions of educational attainment, particularly focusing on AI/AN/NH college- and graduate-level student populations. Because Native students' data are often removed from the reporting of large statistical studies, a study specifically designed to capture experiences of these college and post-college students—who are among the least "counted"—would contribute to a sparse research literature. Our motivation in undertaking a quantitative analysis is to assess the magnitudes and relative importance of the relationships between several well-known obstacles to educational attainment and success; much of this research is guided by existing qualitative studies on the topic. One can certainly find college graduation information for AI/AN/NHs by using the US Census data; however, these data sources do not provide important information about individuals' childhood experiences or household characteristics. We believe that these influences are important in the decision to complete high school and enter college. Therefore, we find it necessary to undertake a new survey that examines the current educational outcomes as well as the prior inputs (such as parental time and social and cultural influences) during childhood for AI/AN/NHs.

Though there are numerous discussions about methodological approaches on educational outcomes for Native peoples, the vast majority of studies conducted are qualitative in nature. This multiphase project seeks to develop a research agenda that will add to the limited number of quantitative studies exploring the relationship among Native culture, language, family characteristics, and educational outcomes. Clearly, this study has roots in the foundational works of qualitative researchers who value community-based and tribally controlled research agendas. In particular, the discussion of recent research offers a much-needed push to investigate the purposes of research conducted about Native peoples and to move toward practices that inform the needs of Native and indigenous peoples.[1] As Native researchers, we embrace the need to increase opportunities to study educational attainment from multiple research methodologies and theoretical lenses; in this case, we have selected a quantitative approach for this phase of inquiry.

Our research began with the initial thought: why do AI/AN/NHs continue to have such low levels of educational attainment as compared to non-Natives? For instance, using the 2008 American Community Survey, which is intended to be representative of the entire US population, we find in table 1 that adult, working-age American Indians (both residing on and off reservations) tend to be much more prevalent in the high school diploma or less category as compared to white Americans. The same holds true for the category of having some college education. However, the prevalence switches for the higher levels

Table 1
Percentage in Education Categories by Racial Group

	American Indians Residing on Reservations	American Indians Residing Both on and off Reservations	White Population
High school diploma or less	47.09	42.78	33.54
Some college	30.15	29.94	24.4
Associate's degree	8.7	8.96	9.18
Bachelor's degree	9.94	12.26	21.1
Master's degree or more	4.12	6.06	11.78

Note: 2008 American Community Survey, ages 18–65, for American Indians and whites not residing in group quarters and with nonzero reported earnings.

of educational attainment; white Americans are much more likely to have a bachelor's or master's degree or higher than American Indians.

Our interest is to explore the reasons for this difference in educational attainment across the groups and to explain the reason for such low college completion—despite the fact that 57 percent of Native youth (eighth-grade Native youth) hold aspirations to attend college full-time after graduating from high school.[2] Several theories or potential explanations for this discrepancy in rates of educational attainment exist. One is financial constraints and obstacles that put tertiary education out of reach for Native populations. A second is a lack of educational preparation in primary and secondary schools that put college enrollment out of reach for these least prepared individuals. A third possibility is that the rewards for additional education differ more for Natives than for white Americans. For instance, if reservations do not have vibrant economies, then highly educated Natives will have little hope of being appropriately compensated for these additional (and costly) skills and training received in college; therefore the incentive to acquire this additional education may be reduced in these cases. However, when examining the data from the 2008 American Community Survey in table 2, it is clear that American Indians with a bachelor's degree earn about 70 percent more, on average, than their counterparts with a high school diploma or less. Individuals with a master's degree or higher earn 94 percent more than their high school–educated counterparts. These differences are slightly larger than the associated premiums earned by white Americans. It appears that the financial incentives exist and should be a strong motivator for furthering one's educational

Table 2
Returns to Education (in education categories) by Racial Group for the United States in 2008

	American Indians Residing on Reservations	American Indians Residing Both on and off Reservations	White Population
Variables	lnwage	lnwage	lnwage
Some college	0.246***	0.255***	0.211***
	(0.0258)	(0.0179)	(0.00244)
Associate's degree	0.432***	0.438***	0.382***
	(0.0371)	(0.0254)	(0.00325)
Bachelor's degree	0.702***	0.659***	0.630***
	(0.0339)	(0.0231)	(0.00258)
Master's degree or more	0.942***	0.884***	0.904***
	(0.0495)	(0.0315)	(0.00312)
Sex	0.359***	0.384***	0.521***
	(0.0220)	(0.0150)	(0.00185)
Age	0.137***	0.147***	0.178***
	(0.00600)	(0.00417)	(0.000559)
Age squared	-0.00144***	-0.00155***	-0.00190***
	(7.35e-05)	(5.08e-05)	(6.67e-06)
Married	0.236***	0.231***	0.144***
	(0.0230)	(0.0157)	(0.00204)
Includes state of residence controls?	Y	Y	
Constant	6.375***	6.223***	5.791***
	(0.127)	(0.0832)	(0.0110)
Observations	9,568	20,166	1,108,448
R-squared	0.231	0.248	0.310

Standard errors in parentheses: *** p < 0.01, ** p < 0.05, * p < 0.1

Note: We use ordinary least squares regressions for the analysis above; we also provide robust standard errors in parentheses below each coefficient. Omitted education group is high school diploma or less. Columns 1 and 2 use data from the 2008 American Community Survey, ages 18–65, for American Indians not residing in group quarters and with nonzero reported earnings. Column 3 uses data from the 2008 American Community Survey, ages 18–65, for white Americans not residing in group quarters with nonzero reported earnings.

attainment. Alternatively, the concept of success may be defined differently for Natives; economic interests and income may be one measure of success, but there may be other equally important measures of success, such as cultural connectedness, that drive individuals' educational and professional goals.

In this article, we present results from a survey project that focuses on the experiences of postsecondary AI/AN/NH students. We acknowledge that there are political and historical differences among and within these three

broad categories of indigenous people; however, our research focuses on a few common obstacles to educational attainment for indigenous peoples in the United States. In the current study, we feel that it is appropriate to incorporate all three groups. The purpose of this study is to generate a profile of characteristics that contribute to, or at least are related to, the success of AI/AN/NH postsecondary students. This study of AI/AN/NH college and graduate students is guided by the following research questions:

- What are the demographics of current AI/AN/NH college and graduate students?
- What are the supports and challenges shaping this population of students' educational attainment, as measured by continued educational achievement?
- What role does past and present cultural and linguistic knowledge play in educational attainment at high school, college, and graduate school?
- In what ways do the findings from this study inform innovative methodological approaches in studying and documenting educational attainment and success?

In this article, we discuss the survey responses provided by a diverse Native student population currently enrolled in various postsecondary institutions across the United States. In particular, we found intriguing relationships between the family and cultural experiences of our survey respondents and their educational attainment. These findings provide a clear path for the future investigation of factors that affect educational attainment and the success of AI/AN/NH college and graduate students. The final portion of the article discusses the ways in which we plan to establish important collaborations with various indigenous nations, groups, and organizations that might be interested in the links among Native language, culture, and educational attainment.

Perspective and Theoretical Framework

To frame our study we looked to educational literature about educational attainment and examined research literature in economics, sociology, and psychology. Reviews of research have indicated that American Indian students fall below the national norms for educational attainment.[3] Pacific Islanders in Hawaii are reported to have a lower educational attainment when compared to Pacific Islanders residing in the continental United States.[4] The general picture for Native Hawaiians shows that they are an underrepresented group at the University of Hawaii, in particular at its main campus in Manoa.[5] Others report that Native Hawaiian students who do not attend a university in Hawaii are more than likely attending community colleges.[6] Additionally, researchers are puzzled by the fact that, although American Indian students

have high rates of nonpersistence in college and have low enrollments in the general college-student population, these students enter with entrance-exam scores comparable to other ethnic groups. Aaron P. Jackson, Steven A. Smith, and Curtis L. Hill cite three categories in research literature that explain the lack of educational persistence among Native students: sociocultural, academic, and personal.[7]

Measures of Success and Educational Attainment

Previous research by James S. Cole and Gypsy M. Denzine has indicated that success is defined as "achievement in college"; they also indicate enrollment as a sign of attainment.[8] Cole and Denzine focused on persistence, graduation rate, and overall academic success as measures of academic attainment. Enrollment trends have focused on three types of K–12 schooling contexts: public schools, private schools, and those that are governed by the Bureau of Indian Affairs. Using US Census data, Walter Hillabrant, Mike Romano, and David Stang and Mike Charleston found that since the 1970s, educational attainment—as measured by high school completion—had increased to 56 percent in 1980 (American Indians aged 25 and higher) from 33 percent in 1970.[9] In this same report, "educational attainment of Alaska Natives was even lower than that of American Indians; 46 percent of Alaska Natives 25 years or older had completed high school in 1980."[10] Another study defined *educational attainment* in terms of "years of schooling." Data from three US Census periods (1970, 1980, and 1990) were examined and organized by Karl Eschbach, Khalil Supple, and C. Matthew Snipp into "conventional degree-attained equivalents."[11] The five categories were as follows:

- Fewer than nine years (did not complete ninth grade)
- Nine to eleven years completed (ninth grade to twelfth grade, no diploma)
- Twelve years completed (high school graduate or general educational development)
- One to three years of college (some college, no degree, or an associate degree)
- Four or more years of college (bachelor's, master's, professional, or doctoral degree)

Kurt Bauman and Nikki L. Graf provided some broad stroke percentages in their US Census brief using data from the 2000 US Census.[12] They indicate, in the table entitled "Educational Attainment of the Population 25 Years and Over by Age, Sex, Race, and Hispanic or Latino Origin: 2000," that, of those American Indians and Alaska Natives (alone) sampled, 70.9 percent completed high school or more years of education, 41.7 percent had some college or more, 11.5 percent earned a bachelor's degree or more, and

3.0 percent earned an advanced degree.[13] These 2000 US Census data, when compared to earlier reported US Census data, suggest an initial tendency toward some improvement in high school attainment for American Indians and Alaska Natives. A careful examination of data reporting from 1970, 1980, 1990, and 2000 would need to be conducted.

The American Indian Measures for Student Success in higher education, conducted by the American Indian Higher Education Consortium, focuses specifically on students attending tribally controlled colleges. Researchers used initial enrollment and college attendance as a measure of educational attainment because this information provides a frame to examine the gateway features, such as college-entrance test scores, performance in public schools, and high school dropout rates.[14] These additional data sources and factors provide more information from which to view college entrance. If used alone, college entrance may not reflect the potential to attain a postsecondary education. For example, the high school dropout rate for Native Hawaiians is reported at 11 percent compared to 5 percent for their white counterparts.[15] We can make some informed guesses as to the proportion of Native Hawaiian students who are likely eligible to enter postsecondary institutions.

A study conducted by Malia Villegas and Rebecca Prieto sought to document a community process in order to define Alaska Native student success.[16] The study revealed the reason for using more holistic measures and indicators of success, taking the definition beyond standardized measures of tests, school attendance, and high school graduation or dropout. The greatest contribution to the study of educational attainment and success is the researchers' involvement of local and regional leaders and community members in the research process of defining "what is a successful Alaska Native student?"[17] This study challenges educators and researchers interested in educational attainment to consider local and regionally defined indicators of success. For Alaska Natives, some examples of a successful Alaska Native student include:[18]

- Do they know their lineage and history?
- Do they understand themselves in a community context?
- Are they taking on leadership responsibilities?

Our study builds upon these studies in the following way—we use postsecondary enrollment as an initial indicator of educational attainment; then we draw our sample of respondents from a diversity of postsecondary institutions in an attempt to form a diverse Native pool of respondents. We examine whether individuals took a break between high school and postsecondary education, their years of educational attainment, and whether they attended a Research I institution and used these as indicators of educational success in this study.[19] Although we collect information regarding standard measures of educational attainment in this article, we are also interested in capturing

a variety of ways in which respondents might define success and educational attainment differently from the standard definition. We designed our initial survey to include opportunities for open-ended responses, hoping to capture respondents' definitions of success, aspirations, and educational attainment. Finally, we seek to understand distinct experiences from individuals representing different tribal nations and communities.

Counting Natives among Conventional Data Sets

Most large data sets used to study the US population refer to the categories defined and used in the US Census studies. The two main US Census categories, "American Indians and Alaska Native" and "Native Hawaiians and Other Pacific Islanders," collapse multiple groups and communities into these broad areas. We potentially miss the distinctions among differing tribal nations, villages, and homestead communities. Suffice it to say, it is difficult to access large data sets with the purpose of studying only AI/AN/NHs. Moreover, it is often not clear how accurate these broad and sweeping categories are in representing the distinctions among indigenous peoples in the United States. Finally, researchers and demographers have called attention to the shifts in self-identification, which may affect the composition of these groups over time.[20] We took into account these limitations and designed the survey to ask if the person identifies as "American Indian, Alaska Native, or Native Hawaiian," and then follow up by asking the respondent to identify their respective Native community or tribal nation. Documenting the experiences of Native populations is a complex endeavor, and we sought to take care with the types of interpretations attributed to particular tribal or Native groups.

Factors Shaping Success and Educational Attainment

We approached this study with the belief that there are many different factors that affect a student's educational success. Existing data sets and surveys, which have usable sample sizes of AI/AN/NHs, are not designed to provide detailed information about the individuals' background and childhood experiences. Apart from the individual motivation and interests, there are family, community, and cultural components that may play an important role in determining the individual's educational attainment. We discuss some of these potential factors below.

Family Structure, Income, and Level of Education

Existing research on educational attainment focuses on the roles that family organization, income, parents' educational attainment, and even birth order

play in regard to the educational and economic success of household children.[21] Research that specifically focused on Pacific Islanders indicates that these students experience conflicts between family obligations and schooling.[22] When a student must be available to care for siblings and attend family ceremonies or a funeral, these important events take time from focusing on schoolwork, thereby shaping their educational trajectory. In our study, we were cognizant of the importance of family responsibilities and sought to include questions in our survey that asked about the types of responsibilities that the respondents had while attending K–12 schooling and while in college or at a university.

Villegas and Prieto state that to achieve success as an Alaska Native student, the "individual success does not defer to community success" and that "family and community connections are viewed as sources of strength and encouragement for moving forward and attaining one's goals."[23] This community-based research project leads to different and important factors to consider in generating research or examining existing research; that is, it is essential to consider the values and beliefs that form the definitions and measures of success. Researchers can look for ways that families and communities support Native students' efforts to be who they want to be, and perhaps draw out more complex ways to conceptualize success from community-, student-, and school-level measures.[24] Aaron Jackson, Steven Smith, and Curtiss Hill, in their study documenting college persistence, found that Native students point to facing and having to overcome passive or active racism as a factor in their pathway to earning a college degree. In this same study, the participants reported taking "nonlinear paths" to college, some attending multiple schools prior to earning a bachelor's degree or taking breaks in their schooling due to family issues or financial barriers.[25] Finally, success in college hinged on the students' perception of acceptance or nonacceptance by their family, friends, and tribal community. Success in college was situated as being in conflict with culture and family expectations.

Existing research has focused on external and social factors in order to describe or explain educational attainment (or lack of attainment) from a sociocultural perspective. External factors include exposure to poverty, health status, family responsibility, or the reporting of high school dropout rates. Though reports about the general economic status of American Indians writ large provides a backdrop from which to make some inferences about the nature of household characteristics regarding child educational outcomes, there does not appear to be a large variation in the general picture of poverty and economic wellness in American Indian households. It is a consistent story of deprivation and poverty for many of the households in our survey.

Culture and Language

We were interested in expanding factors of educational attainment in order to include culture and language particularly with postsecondary student populations. We also drew upon scholarship that discusses the link between Native culture and language and academic achievement. For example, Whitbeck and colleagues examine factors affecting academic success in 196 fifth- through eighth-grade American Indian children.[26] They used a regression model that included examining age, gender, family structure, parent occupation and income, maternal warmth, extracurricular activities, enculturation, and self-esteem. They found that traditional culture positively affects the academic performance of these students. In our study, we wanted to understand better the impact of cultural and community engagement on respondents' current educational attainment. Although previous research focused on students in elementary, middle, and secondary education, our interest is in college-aged students who may be perceived as already "educationally successful" by the criterion of current and continued enrollment in college or graduate school.

Other reviews of research suggest that tribally controlled colleges offer the opportunity for Native students to preserve their identities while seeking to attain their educational and professional goals.[27] In the review by Whitbeck and colleagues, the authors do not indicate whether preservation of cultural identity supported academic performance, nor do they suggest a causal relationship. However, a distinction is clear that cultural identity and reaching professional goals through a college education are important factors for American Indian students.

With this specific population of college and graduate students, what culturally relevant curriculum or instructional experiences contributed to their current educational attainment? We used the literature about links among culture, language, and achievement to frame this question and to guide the types of questions we asked in our survey.

Methodology

Background of the Study: Phases of Research

Although this article focuses primarily on the second stage of this multiphase study, the following provides an overview of the different phases of our work.

Phase I—Conceptualization of test indicators and survey generation

In 2006, this survey study was conceptualized. Existing measures of educational attainment were identified and reviewed, and survey questions were generated. Initial review of research revealed that data reported from existing

surveys was not timely (and as a result unlikely to be usable to Native communities and educators), and surveys identified as timely were more likely not to include small populations, such as AI/AN/NHs. Existing surveys of Native students often did not include early childhood experience or cultural connections, as general surveys tended to rely on standardized indicators of success. Sample questions and instrument design were presented to researchers and scholars interested in documenting educational attainment for Native populations. By using the feedback from an interdisciplinary group of Native scholars, the survey instrument was revised to include new questions in the areas of family and cultural backgrounds, including structural and organizational issues that were viewed as potentially distracting to the respondent.

Phase II—Implementation of first phase of online survey

The questionnaire was piloted in two stages. The first stage was conducted in July 2007 with a small number of colleagues and students. This first-stage pilot questionnaire was designed to test the readability of the revised questions and to assess the usability of the online survey tool. The second stage of the pilot study was conducted from September 2007 through March 2008. Initial findings and a review of methodology were presented at an international conference focused on Native American and indigenous studies.[28] New analytic possibilities emerged from this scholarly meeting, and this article includes these discussions. Specifically, we were encouraged to include a series of open-ended questions in our survey in order to identify the relationships between family and household influences and educational attainment and success.

Phase III—Implementation of full online survey and introduction of new outcomes

We are currently undertaking a revision of our survey, and this phase has not been completed.

Phase IV—Implementation of longitudinal survey

We have not yet begun this phase of the research. We anticipate undertaking a representative sample of AI/AN/NH communities and forming collaborations with indigenous communities. The survey will include new questions and mixed-method design derived from community input and collaboration.

Online Survey Tool

We designed our AI/AN/NH Educational Attainment Survey using the Web-based SurveyMonkey tool.[29] The survey was chosen for its accessibility when using any Web browser. The survey tool and service provided technical

assistance and security for the data collected. The data collected was secured using a Secure Sockets Layer encryption in order to ensure optimal protection of our survey link and survey pages during an administration session.

When respondents logged on to the secure site, the introduction page would appear, which included our informed-consent page describing the study, risks, and benefits; a statement about confidentiality; and the researchers' contact information. Prior to beginning the survey, respondents needed to consent to participating in this study by clicking "yes."

After consent is given, the next page reveals the question, "Are you of American Indian, Alaska Native, or Native Hawaiian descent?" If the respondent answered "no," he or she would see a page thanking them for his or her participation. If the respondent answered "yes," the respondent would enter the first section of the survey focused on basic demographics. Throughout the survey there were questions that included set responses and some questions that were open-ended (the respondent filled in the blank with his or her appropriate response).

In the basic demographic section we asked for various types of information, including tribal and nation affiliation. This question allowed for the respondent to self-identify by using whatever name he or she wanted to enter for the tribal affiliation. We collected information about the current location of the respondent's residence (town, state, and country), gender, race (including the opportunity to identify with multiple racial groups), year of birth, and whether the respondent lived on a reservation, land allotment, homestead, or village designated for a tribal nation, Alaska Native community, or Native Hawaiian community. We also collected information about current marital status and current family structure and living situation.

Personal history and family structure was another section of the survey, including questions about whether the respondent was raised in a two-parent household, whether the respondent was raised by a foster parent or family, and the number of schools the respondent attended up to age eighteen, for example. We also asked about parent and family income and the educational levels attained. Finally, we asked about current employment opportunities.

We devoted an entire section to the educational experiences and achievements of survey respondents. In addition to current educational status, we asked about past educational schooling, programs, and activities. As a part of this section, we asked whether respondents took breaks while attending high school or college, and in particular, we were interested in the transition between high school and postsecondary education.

The last section of the survey focused on questions about past and current culture and language experience and knowledge. Questions were cast in terms of culture and language knowledge taught in and outside of schools.

The survey had a total of sixty questions, and not all questions applied to all respondents. The survey was designed and timed to take approximately twenty to twenty-five minutes to complete.

Data-Collection Process

Our online survey collected data about the following areas: basic demographic information, family background, general educational background and experience, employment, and cultural and linguistic background.

To participate in the survey, respondents needed to

- Self-identify as a member of a tribal nation within the continental United States, Alaska, or Hawaii;
- Be enrolled in a college, university, or graduate school;
- Have access to the Internet in order to complete the online survey questionnaire;
- Be eighteen years of age or older; and
- Be either male or female (both were encouraged to complete this survey).

Respondents entered their responses directly into the online survey.

Our Data Sample

Respondents were recruited from more than two hundred Native American and Native Hawaiian programs across the United States. E-mails were sent to the directors of American Indian and Native studies programs with information about the researchers, the study, and our research goals. We provided information about how interested students could log on and complete our survey online.

We focused specifically on currently enrolled college and graduate school students; therefore, we have a targeted subsample of the AI/AN/NH student population. By design, our study examines the relationship between family background and the cultural experiences of a college-educated subgroup of AI/AN/NHs; our intention is to survey a representative sample of Natives in future studies. The respondents to our sample were, on average, thirty years old, 82 percent were female, and more than half of them grew up on a reservation, in an Alaska Native village, or in Hawaiian homelands. More than three-quarters of this sample had attended public schools at one point in their academic careers. The average educational level for this sample was a college degree. We acknowledge that this targeted college/postcollege population may report a unique set of experiences not shared by the general AI/AN/NH adult population; however, our sample represents an important population to study because of its levels of educational attainment, persistence in schooling, and set of educational and cultural experiences.

Our analyses are based upon responses from eighty-one respondents. The survey drew from a diverse group of students: more than forty-four American Indian tribes, Alaska Native communities, and Native Hawaiian communities are represented in the data from twenty-two different states. Additionally, students attended more than thirty different US universities and colleges.

Data Analysis

We employed an ordinary least squares (OLS) regression methodology in order to estimate the relationship between childhood experiences and the following measures: educational attainment, the probability of taking a break between college and high school, and attendance at a Research I university. These outcomes are a measure of educational attainment and success, which is the primary focus of our current research.

The OLS regression allows us to hold constant a number of variables that all may contribute to the educational achievement outcomes we examine. Although there may be numerous contributing factors that affect educational attainment and success for our survey population, OLS regression allows us to control for these variables explicitly. One of the reasons for undertaking this quantitative study is to be able to provide data that can be used in this type of analysis. For instance, we are interested in the cultural and household characteristics of Native students and how this affects their educational success in the future. We have a measure of the student's mother's educational level, and this allows us to separate out two potential kinds of parental knowledge: cultural knowledge and general knowledge (as evidenced by the mother's overall educational level). Within our study, we can separately identify the association between the mother's education and the student's educational attainment as well as the association of the mother's cultural influences and activities on her child's educational attainment. Quantitative analysis of this kind, given the appropriate data and situation, can provide useful insights into the relative influence of different factors on educational attainment.

Limitations

As mentioned previously, this sample is not representative of the AI/AN/NH populations but represents purposeful movement toward an initial examination of factors influencing educational attainment for postsecondary students. In addition, this pilot survey provided an opportunity to reexamine the survey questions and conceptualize new questions for future versions of our survey.

Table 3
Selected Categorical Variables

Census Region and State of Birth	
Mountain	
AZ	6
CO	1
ID	2
MT	2
NM	11
UT	1
Pacific	
AK	3
CA	7
HI	13
OR	2
WA	4
South Central	
KY	1
OK	2
North Central	
IL	3
IN	1
KS	1
MN	1
ND	2
NE	1
SD	2
WI	11
Atlantic	
ME	1

Tribal Nations, Indigenous Peoples Represented	
Absentee Shawnee	1
Aleknagik Native Corporation, Bristol B	1
Aleut-Naknek Village Council	1
Athabascan-Tanana, Alaska	1
Brothertown Indians	3
Cherokee	3
Cherokee/Chickasaw	1
Choctaw	1
Coeur d'Alene tribe	1
Cowlitz tribe	1
Crow	1
Fort Peck Assiniboine	1
Fort Peck Sioux (Dakota, Lakota)	1
Garden River First Nation	1
Native Hawaiian	15
Ho-Chunk Nation/Lakota	1
Hopi/Tewa	1
Inupiaq-Unalakleet, Yupik-Bethel	1
Jicarilla Apache/Southern Ute	1
Kainai (Blackfoot), Menominee	1
Karuk	1
Kickapoo (Oklahoma), Sac and Fox	1
Lac du Flambeau Band of Lake Superior Chippewa	1
Lenni Lenape	1
Little Shell tribe of Chippewa Indians	1
Menominee/Choctaw	1
Mescalero Apache	1
Native Village of Koyuk	1
Navajo	18
Ojibway	1
Oneida Nation	2
Prairie Band Potawatomi, Cherokee, Kick	1
Quapaw Nation, Sac and Fox Nation	1
Red Lake Band of Chippewa Indians	1
Rosebud Sioux tribe/Ogalala Sioux tribe	1
Sisseton Wahpeton Oyate	1
Spirit Lake tribe	1
Standing Rock Sioux tribe	1
Stockbridge-Munsee Band of the Mohican	1
Tlingit Ojibwe	1
Tonawanda Seneca	1
Village of Lower and The Kuskokwim Corp.	1
Winnebago tribe of Nebraska	1
Yakama and Hopi	1

Research Findings

Descriptive Demographics: A Portrait of Respondents

The students who completed this survey come from diverse tribal backgrounds and different geographic locations. Table 3 provides an overview of data representing their states of birth and tribal affiliations. Although this sample is not random, we see evidence of a diversity of background and tribal affiliation, with a large number of our respondents drawn from Hawaii and Wisconsin and a very small number from Oklahoma (which, interestingly, has a large American Indian population). Second, we provide the tribal affiliations and cultural groupings that the respondents provided by using their own words when entering information directly into the survey. Respondents used their own words to self-identify with their respective tribal nation, tribal identity, or community. Native Hawaiians and Navajos respondents were the two largest groupings at fifteen and eighteen, respectively.

In table 4, we present some summary statistics for the sample used in our analysis. Although we have eighty-one observations in total, not all respondents completely answered all survey questions. The majority of our analysis is conducted by using sixty-two observations (59 for the highest educational attainment analysis). The first set of variables presented in table 4 detail the individual characteristics of our sample. Approximately 13 percent of this sample is female, and the average age is twenty-nine years old. The next four variables indicate the highest level of educational attainment at this current point in time for our sample. Approximately 10 percent of the sample had only a high school diploma at the time of the survey, although 23 percent had completed some college, 36 percent had a college degree, and 32 percent had completed more than a college degree. These statistics indicate that our sample is a very highly educated group relative to the population of AI/AN/NHs on average. The next variable, the proportion taking a break between high school and college, has a mean value of 29 percent. Even in this relatively highly educated group of individuals, almost one-third took some time off between high school and college entrance. Finally, we report that almost 71 percent of our sample attends a Research I university, which we take to be a proxy for a selective institution of higher learning in our analysis that follows.

Contextual and Cultural Exposure: Formative Learning Experiences and Activities

A second surprising finding illustrates the potential role that childhood experiences have on the individual's long-run educational attainment and success. We asked our survey respondents what kind of activities were commonplace

Table 4
Sample Characteristics

Individual Characteristics	
Male proportion	0.129
Age	29.339
Proportion with only a high school diploma	0.097
Proportion with only some college education	0.226
Proportion with only college degree	0.355
Proportion with more than a college degree	0.322
Proportion taking a break between high school and college	0.290
Proportion attending an R1 university	0.710
School Experiences	
Proportion with Native teachers in school	0.258
Proportion taught tribal history in school	0.274
Proportion taught their Native language in school	0.290
Proportion taken to tribal or cultural events while in school	0.468
Childhood (nonschool) Experiences	
Participated in tribal ceremonies as a child	0.452
Attended tribal meetings as a child	0.242
Spent time with tribal elders as a child	0.742
Household Characteristics	
Mother's education level	2.484
Number of heads of household	1.565
Proportion raised in a two-parent household	0.677
Parental annual household income in thousands of dollars	55.500

Note: 62 observations. Mother's education is given in the following categories: 0 is less than a high school education; 1 is GED or high school diploma; 2 is some college; 3 is a college degree; and 4 is more than a college degree.

for them as children. Several questions pertained to childhood activities that directly related to tribal and cultural events. These variables measure the child's self-reported school experiences and are presented in table 4.

More than one-quarter report having had a Native teacher in school as a child, and more than 27 percent report having learned their tribal history while in school. Almost 30 percent report learning their Native language while in school, and almost one-half report being taken to a tribal event while in school. Overall, these survey respondents appear to have had at least some exposure to tribal history and events during their childhood schooling experiences. For nonschool experiences, the survey respondents appear to have had

more exposure to tribal events and cultural activities. For instance, almost 50 percent of the sample indicated that they had participated in tribal activities as a child, and almost 75 percent had reported spending time with tribal elders. Less than one-quarter of the respondents reported attending tribal meetings during childhood. Our results (in tables 6, 7, and 8) indicate that individuals who were more exposed to indigenous cultural activities were less likely to take a break between high school and college. Additionally, we found that the more exposure a student had to Native cultural activities as a child, the more likely they were to attend a large Research I university.

Family Influence: Formative Experiences Leading to Educational Attainment

The survey asked detailed questions regarding the size, nature, and kind of households these students lived in at different stages during their formative years. We will discuss the different roles that grandparents, parents, and siblings played in determining the childhood experiences and their long-run educational attainment. The findings from these questions will identify the role that different household types play when it comes to educational attainment.

We also provide information in table 4 regarding the respondent's childhood household characteristics. The mother's education falls between the categories of some college and a college degree (a value of 2.5). The next variable measures the number of different heads of households in the respondent's family during their childhood; on average, our survey respondents have lived with more than one household head during their childhood with a value of 1.5 heads of households during their childhood. The third variable in this section indicates the number of respondents who were raised in a two-parent household—only two-thirds of the respondents report living in a two-parent household during childhood. Finally, the average annual income for the respondents' childhood households is $55,000.

Formative Educational Pathways: Stability of Educational Pursuit

The survey instrument included a number of open-ended questions. For instance, we asked individuals who took a break between high school and college to tell us the reason for taking this break. Table 5 presents the categories of circumstances contributing to the individual taking a break during the time between graduating from high school and starting college. This table indicates that finances and family responsibilities are important factors in disrupting the education process at this important transition. In table 6 we will show that taking a break between high school and college is associated with lower levels of educational attainment even for this subsample of relatively high-achieving individuals.

Table 5
Reasons for Taking a Break between High School and College

Working	13
Tuition	12
Family	10
Head of household	5
Poor grades	4
Time off	8
Not ready	5
Military	1
Health	0
Traveling	0
Other interests	7
Other	5

Individuals who have taken any breaks between high school and college are less likely to have completed a four-year degree than someone who is similarly aged and went straight from high school to college. Our survey also inquires about the reasons for taking a break between high school and college. The overwhelming answer indicates that work or employment was the main reason for taking a break from school, while the second most reported answer was that the individual could not afford tuition. We asked individuals to explain if there were any additional reasons. Two students provided these responses:

- Pressured to not attend school by ex (boyfriend). No support.
- There was very little support in financial aid, doing paperwork to get ready for college after high school. So I simply did not go.

The first answer indicates the importance of community, family, and partner support in the pursuit of higher education. The second indicates the role that bureaucracy may play in creating an obstacle to attending college.

Additionally, we asked individuals to tell us why they eventually ended up returning to college. In these open-ended questions, we analyzed a variety of responses. Most respondents emphasized the need to get a degree for financial security.

- Unable to support my family.
- I got laid off and needed a new career.
- I wanted to earn a better pay. I was bored with my minimum-wage job. I always liked school. Wanted a better way of life for my kids.

Others emphasized the importance of being a role model for either their community or their children.

- I am motivated to get my degrees, bachelor's and master's, so I can return to my region and become a clinician with our health corporation.

Table 6
Any Breaks in Education between High School and College Explained by Childhood Household Characteristics and Childhood Experiences

	Any Break between High School and College?	
Independent Variables	**Marg. Eff.**	**Marg. Eff.**
Male?	-0.227***	-0.190***
	(0.0726)	(0.0717)
Age	0.0349***	0.0390***
	(0.0102)	(0.0106)
Number of heads of household	-0.0870	-0.0569
	(0.0556)	(0.0476)
Mother's education level	0.0163	0.0162
	(0.0517)	(0.0528)
Parental annual income in thousands of dollars	-0.00122	-0.000799
	(0.00202)	(0.00198)
Two-parent household growing up?	-0.411*	-0.500***
	(0.212)	(0.193)
Any high school breaks?	-0.219***	-0.207***
	(0.0821)	(0.0705)
Ever hide identity growing up?	0.137	0.275
	(0.153)	(0.188)
Native teacher in school?	0.334	0.487**
	(0.209)	(0.215)
Learned about own tribal history?	-0.162	-0.135
	(0.102)	(0.101)
Learned own Native language in school?	-0.133	-0.0985
	(0.113)	(0.114)
Participated in own tribal cultural activities in school?	-0.293**	-0.269*
	(0.136)	(0.142)
Participated in own tribal ceremonies as a child?		-0.0436
		(0.128)
Attended tribal community meetings as a child?		-0.0741
		(0.125)
Spent time with elders of your community as a child?		-0.331*
		(0.186)
Observations	62	62

Note: *** indicates statistical significance at the 1% level; ** at the 5% level; and * at the 10% level.

- I had a young daughter and wanted to stop working weekends and nights at the casino; I felt that going to college for my bachelor's degree would help stabilize my life and provide better income for my family.
- I had two children and wanted to be a role model and knew I would have to work two or three jobs with only a high school diploma to support my children (I was a single mother).
- To better myself, to make more money, and to set a good example for my own children.

Some other survey respondents emphasized the importance of personal goals as a significant motivator to continue with their educational pursuits.

- I felt that whatever work interest I had I felt I could do better by getting an education. I also felt that I wasn't utilizing my full potential. I was always "reminded" that a college education was a priority in my life.
- Higher education, seek a better employment, broaden my horizons, personal growth.
- I felt it was a good natural progression if I wanted to accomplish the goals I'd set for myself.

The open-ended questions tended to confirm that numerous and complex considerations influence the decision for AI/AN/NHs to pursue and persist in higher education. Although many of these considerations are related to financial interests, there are a number of individuals who are concerned with serving as a role model as well. The altruistic desire to serve as a resource and a role model for their communities by getting a higher education may distinguish this population from others studied in the United States. We intend to pursue this motivation further in our future research.

Educational Pursuit, Contextual and Cultural, and Family Factors: Significant Findings

In this section, we attempt to uncover a statistical relationship between our three adult outcome variables (took a break between high school and college, highest educational attainment, and currently attending a selective university) and the respondent's childhood experiences and family characteristics. We have in mind a very simple cross-section regression model of the form:

$$(1)\ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

In this formula, Y is the outcome variable of interest (took a break between high school and college, highest educational attainment, and currently attending a selective university). The variable X_1 is a vector of individual characteristics provided in table 4, while the variable X_2 is the household characteristics. Variables X_3 and X_4 represent school experiences and other

childhood experiences, respectively. Our intention in running these regressions is to determine if there are any independent relationships among these various childhood experiences and characteristics variables and the three outcome variables (see tables 6, 7, and 8).

Factors Affecting Taking a Break between High School Graduation and College Enrollment

Educational attainment is measured by enrollment in school. Students' educational attainment can be interrupted, which is a significant reason to examine when students took breaks from school. We were particularly interested in the transition period between graduating from high school and enrolling in college. Table 6 provides the results from a regression of whether an individual has taken a break between high school and college on these three variables (took a break between high school and college, highest educational attainment, and currently attending a selective university). In the first column, the individual characteristics, such as the number of heads of households during childhood, mother's education level, and annual income, all have estimated coefficients that are negative. None of these coefficients are statistically significantly different from zero, however. In this sample, males are less likely to have reported taking any breaks between high school and college. We also find that, on average, the older individuals in our sample are more likely to report taking a break between high school and college. This indicates that the younger group in our sample is more likely to go to college directly from high school and may reflect a greater emphasis on or support by parents and family for educational attainment. Both of those coefficients are statistically significant. Additionally, taking a break during the high school years appears to be associated with a lower incidence of taking a break between high school and college for our sample.

Two variables that were statistically significant are the influence of having resided in a two-parent household and having participated in a tribal cultural activity while in school. Having lived in a two-parent household while growing up is associated with a reduced probability of taking a break between high school and college by 41 percent. Within this sample, this is a large result. We examined the reasons individuals took a break before college (table 5) and see that finances and family responsibilities are the main reasons for a gap in their educational pursuit.

For those individuals who participated in tribal cultural activities while in school, that cultural experience is associated with a lower incidence of taking a break between high school and college. The estimated coefficient on this variable indicates that if a child participated in a tribal cultural activity while in school, this engagement is associated with a 29 percent reduced probability

of taking time off before college. Statistical analysis allows us to report a relationship; however, it is not clear what the direct relationship is between this variable and an increased pursuit of postsecondary education. We view this result as a useful variable to explore in our future research. It would be important to parcel out what constitutes a "tribal cultural activity" from one that is not. Also, it would be important to understand better what these individuals accomplish while not attending school—this would allow us to examine other conceptions of success or educational attainment not captured by current college enrollment.

In the second set of columns, we include additional variables that measure childhood experiences outside of the classroom. Our findings here change slightly. The coefficients on being male and the age variables continue to be statistically significant. Growing up in a two-parent household has a stronger effect both in statistical significance and magnitude; having had a two-parent household during childhood is now associated with a 50 percent reduction in the likelihood of having reported taking a break between high school and college. Participation in cultural activities during childhood schooling is still associated with a lower incidence of taking a break after high school, but the statistical significance is somewhat diminished here. Taking a break during high school is still associated with a lower incidence of taking a break after high school.

Two other variables are now statistically significant in this model. The first is that having a Native teacher in your school is associated with having a higher likelihood of taking a break between high school and college. We don't view this result as causal, merely as associative. However, this is an interesting result, and we are intrigued by what other things this potential Native teacher variable may be picking up. Is it possible that students who have Native teachers tend to come from the most impoverished communities and, therefore, are most likely to take a break from education for financial reasons? Or is it that students who have Native teachers tend to come from highly traditional communities in which community relationships and responsibilities are of primary importance and education is secondary? These are significant questions that must be explored more directly in our future work. Specifically, we believe a measure of teacher quality and curriculum are important characteristics that should be included in this analysis. These current results are useful in framing the existence of an effect that may be attributable to a number of causes. Future research will be aimed at uncovering whether this relationship is truly a causal one or merely associative.

Finally, we find that spending time with elders in your community is associated with a reduction in the reporting of taking a break between high school and college. Although this coefficient is only statistically significant at the 10

percent level, it indicates that this activity is associated with an almost 33 percent reduction in taking a break after high school.

These initial findings from our survey are potentially important if these relationships are causal in nature and hold for the broader AI/AN/NH communities: breaks between high school and college are associated with a reduction in educational attainment. This argues, potentially, for better access to college financing, loan programs, and grant programs for this population. Additionally, it appears that family concerns, such as care for children (and to some extent parents), are an important burden and a potential deterrent to entering college. A hidden question located in these reported relationships regards the quality of early life and cultural experience; the quality of relationships with family, elders, and the tribal (or nontribal) community; and the motivation for persistence. An important question emerges for these findings: what is the nature of the time spent with elders that shapes an individual to persist in schooling?

Factors Affecting Educational Attainment

We repeat the analysis with highest level of educational attainment as the outcome variable (see table 7). In the first set of columns, many variables are not statistically significant; this may be simply due to our small sample sizes. However, it is important to note that many of the coefficients have the expected signs: mother's education has a positive coefficient as does growing up in a two-parent household, which indicates that there is more than a positive association between educated mothers (and two-parent households) and the educational attainment of their children. Three variables have negative coefficients (but are not statistically significant): any breaks during high school, having a Native teacher in school, and having learned a Native language in school. It is curious that the last two variables have a negative association with the highest level of education attained.

We find that having more than one head of household during childhood tends to be associated with increased educational attainment. Typically, we would expect that having multiple heads of household means a less stable household structure and, consequently, would result in negative outcomes for the children's educational attainment. That does not appear to hold in our sample; the individuals in our sample who are exposed to different household heads in their childhood are more likely to have higher levels of educational attainment. Higher household income is associated with higher levels of educational attainment as would be expected and is statistically significant. Whether an individual participated in tribal cultural activities while in school provides an intriguing research result; we find that individuals who participated in such activities are

Table 7
Education Levels Explained by Childhood Household Characteristics and Childhood Experiences

	Highest Education Level Attained	
Independent Variables	**Coef.**	**Coef.**
Male?	0.003	-0.06
	(0.757)	(0.908)
Age	0.190***	0.197***
	(0.0408)	(0.0408)
Number of heads of household	0.0903	0.0704
	(0.265)	(0.240)
Mother's education level	0.125	0.0609
	(0.205)	(0.239)
Parental annual income in thousands of dollars	0.0246**	0.0248**
	(0.0113)	(0.0109)
Two-parent household growing up?	1.068	1.309
	(0.716)	(0.829)
Any high school breaks?	-0.146	-0.0131
	(0.783)	(0.766)
Ever hide identity growing up?	0.0237	-0.156
	(0.721)	(0.793)
Native teacher in school?	-0.651	-0.900
	(0.756)	(0.815)
Learned about own tribal history?	0.394	0.441
	(0.718)	(0.731)
Learned own Native language in school?	-0.446	-0.335
	(0.875)	(0.825)
Participated in own tribal cultural activities in school?	2.009***	1.911**
	(0.703)	(0.764)
Participated in own tribal ceremonies as a child?		0.801
		(0.629)
Attended tribal community meetings as a child?		-0.0533
		(0.838)
Spent time with elders of your community as a child?		-0.0381
		(0.751)
Constant	5.530***	5.913***
	(1.565)	(1.638)
Observations	59	59

Note: *** indicates statistical significance at the 1% level; ** at the 5% level; and * at the 10% level. Education is given in the following categories: 0 is less than a high school education; 1 is GED or high school diploma; 2 is some college; 3 is a college degree; and 4 is more than a college degree.

expected to be almost two education categories higher than a similar individual who never participated in tribal cultural activities. In this case, it is not clear how these childhood experiences are related to higher educational attainment. Perhaps this variable measures an individual's identity and the pride that propels these individuals on toward higher education. This result is intriguing and serves as an additional area of investigation for our future research. Including additional variables (the second set of columns in table 7) for childhood experiences outside of the classroom produces qualitatively similar results.

Factors Affecting Attending a Research I University

In table 8 we repeat our analysis with a new outcome variable: attending a selective university or college. Our analysis indicates, in the first set of columns, that not many of these childhood characteristics are associated with whether an individual attends a selective institution. Our sample size is only sixty-two individuals, and this may be driving our lack of results. Nevertheless, we find that the mother's education level, annual income, and having a two-parent household all are positively related to the probability of attending a selective institution.

We find that whether a child learns a Native language in school is associated with a 40 percent lower likelihood of that individual attending a selective college or university. The coefficient on this variable is negative, which indicates that there is a negative relationship between learning a Native language in school and attending a selective university. We are interested in uncovering the channels through which learning a Native language in school translates into attending a less selective college or university. At this point, we can only hypothesize that individuals who are interested in Native languages may stay close to home and perhaps attend local or tribal colleges (these may be the only institutions in which Native languages can be taught and supported). It is difficult to find large Research I universities that offer any courses in indigenous languages. Our findings may simply indicate that individuals with an interest in Native languages have few opportunities to pursue these studies at larger, more selective institutions because of the lack of suitable courses or programs. In the future, it would be useful to investigate the availability and location of indigenous-language programs.

Learning about one's tribal history is associated with an increase in the likelihood of attending a selective institution. These results are intriguing, but given our relatively small sample size, it is difficult to attribute any causality to these results. Future work will have to distinguish between these different childhood experiences and their effects on adult outcomes.

Including the additional variables for childhood experience outside of the classroom indicates that having participated in tribal ceremonies as a child

Table 8
Attending Selective University or College (Research 1) by Childhood Household Characteristics and Childhood Experiences

	Attending Selective Institution?	
Independent Variables	**Marg. Eff.**	**Marg. Eff.**
Male?	-0.0573	-0.135
	(0.186)	(0.192)
Age	-0.00144	-0.000677
	(0.00742)	(0.00721)
Number of heads of household	0.0133	-0.0239
	(0.0600)	(0.0561)
Mother's education level	0.0742	0.0558
	(0.0494)	(0.0483)
Parental annual income in thousands of dollars	0.000756	0.000695
	(0.00217)	(0.00194)
Two-parent household growing up?	0.113	0.180
	(0.152)	(0.174)
Any high school breaks?	0.0964	0.144
	(0.159)	(0.146)
Ever hide identity growing up?	-0.0462	-0.131
	(0.153)	(0.167)
Native teacher in school?	-0.0437	-0.147
	(0.164)	(0.195)
Learned about own tribal history?	0.229*	0.222**
	(0.120)	(0.113)
Learned own Native language in school?	-0.399**	-0.410**
	(0.182)	(0.186)
Participated in own tribal cultural activities in school?		
	0.153	0.132
	(0.134)	(0.134)
Participated in own tribal ceremonies as a child?		
		0.281**
		(0.131)
Attended tribal community meetings as a child?		
		-0.0650
		(0.168)
Spent time with elders of your community as a child?		
		0.0293
		(0.154)
Observations	62	62

Note: *** indicates statistical significance at the 1% level; ** at the 5% level; and * at the 10% level.

(outside of school) is associated with an almost 30 percent increased probability of the individual attending a selective college or university. As discussed, this variable may serve as a proxy for individual identity and pride, which propels the child to seek out more education and selective institutions.

Educational Significance and Contribution

The results of this study have provided some important insights into our understanding of educational attainment and about the supportive structures for educational persistence of self-identified AI/AN/NH students attending colleges or universities within the United States. Most large-scale educational quantitative studies do not include these populations in their final analyses due to the lack of statistically significant samples. This study serves as a first step toward creating an AI/AN/NH survey population that can be considered "statistically significant" in studies of educational attainment and toward contributing to a greater understanding in the research literature of schooling and attainment for Native youth. By focusing this study specifically on Native populations, particularly on questions regarding their educational attainment, we are able to isolate and examine factors that impact their trajectory to achieving access to a higher education. By surveying "successful students" (those currently enrolled in college), we create a special opportunity to examine what factors most contributed to their current educational success and attainment. Educational research about AI/AN/NH populations often cites lack of persistence, high dropout rates, and limited overall academic success. This study moves toward the discussion of circumstances contributing to educational attainment. Although some of the respondents may have experienced interruptions in their educational path, their presence in this study demonstrates a unique quality of persistence to attain an education, even if that educational path was interrupted.

What is a "successful" student? Why define success as current enrollment in postsecondary schooling? The educational trajectory of students, particularly Native students, involves peaks and valleys, moments of active schooling, and moments of stalled progress toward degree completion. Many of the students in this study have experienced these starts and stops, yet they are in active pursuit of a college degree. Other definitions of success that focus on one moment in time or a more accepted conception of students' educational trajectories would leave out many of these particular students and many Native students. This study, by defining success in the way that we do,

- Provides an opportunity to study students, who in other studies might be deemed failures, and insight into the ways in which educational "failure"

and "success" (by mainstream definitions) may both be part of a Native student's trajectory toward attainment;
- Potentially expands the population of Native students available for study in mainstream studies of educational attainment (creating a more "statistically significant" population); and
- Makes the argument that the most comprehensive way to understand educational attainment is through longitudinal studies that investigate paths and trajectories, not moments-in-time and snapshots.

Our initial results provide insight that has not been previously documented for this study population. For example, regarding the three outcomes associated with educational success, several findings emerged that have potentially important implications for understanding the educational attainment of Native youth. Although taking a break between high school and college is associated with lower college completion rates, we found that there are several critical and supportive factors associated with persistence in attaining a postsecondary education. The supportive factors for reaching high levels of educational attainment are participation in tribal cultural activities in school as a child, spending time with elders in the community, and taking a break during high school.

Additionally, several risk factors for taking a break between high school and college also emerge, including lack of peer, family, or community support; financial support; and institutional support. Further, females are more likely to take a break than males. We learn critical information about this special population of "successful" students—their experiences and insights tell us there are a number of mitigating factors that can be the cause for an interruption in educational attainment. We have an opportunity to examine more carefully the educational trajectory of Native students; in mainstream studies of educational attainment, these students would likely be classified as dropouts, due to their lack of "on time" completion of high school, the interruptions in their schooling, and the assumption that "leavers" don't come back to complete their schooling. We encourage researchers to move beyond simple dropout statistics in order to examine interruptions in schooling longitudinally (that is, as part of a trajectory and not the end of a trajectory); factors contributing to returning to school to complete and earn a college degree; and the ways in which moments of struggle and failure within a trajectory can contribute to—rather than prevent—subsequent educational attainment. We know that the time it takes one to enter college officially and then complete college are two different factors (variables) to examine. We know that American Indian students, in this case successful Native students, experience interruptions in their schooling. We also know that these students return and complete their education at different rates than what might be measured by the general population.

In terms of highest educational attainment, participation in tribal cultural activities in school as a child was associated with much-higher levels of attainment (two educational categories) than nonparticipation in tribal cultural activities. Similarly, learning about one's tribal history was associated with an increase in the likelihood of attending a selective postsecondary institution. The set of findings articulated here sheds light on the connection between particular family, school, and community factors and levels of educational attainment. Although these findings from the second stage of this multiphase project are not causal, they point the way to future directions in research on Native education and may inform policy and practices shaping Native education. Investigating these phenomena with more expansive research and addressing these issues from an institutional and a community perspective may have a significant impact on the educational attainment of Native youth. Further, the importance of experiencing cultural traditions in school to educational attainment highlighted by these early findings points the way to a research focus rarely explored on a large scale.

Generating a larger sample size will certainly improve the quality of the data and will allow for additional statistical analysis. In addition, we continue to be cautioned by documented limitations of studying AI/AN/NH student populations.[30] Eschbach, Supple, and Snipp highlight the difficulty of documenting race, particularly for Native populations that may see their racial or ethnic identity as fluid. Moreover, individuals who identify as Native may continue to shift, influenced by sociopolitical events (for example, the American Indian Movement of the 1970s fostering pride in American Indian identity is hypothesized as the reason for increases in self-identification in US Census data from the 1970s through the 1990s).[31] As we implement the next phases of this study, we work to define and describe more clearly what the sample population represents. We continue to carry the burden of carefully representing data collected from culturally, linguistically, and ethnically diverse Native populations.

Finally, we aim to undertake a more thorough analysis of alternative measures of individual success in our future research. Our interest in starting this research was to investigate whether indigenous peoples' concept and measures of success differ from that of the majority. Potentially, individuals may value community responsibilities over individual achievement. Utilizing a standard measure of educational attainment, many of these individuals may be counted as failures. However, we believe that there might be alternative explanations for individuals' motivations and intend to explore this possibility in the future.

This question of how we understand success is the crux of the first phase of this research, though educational success is a concept thought to be understood and accepted, and educational attainment is seen often merely as how far a student has gone in his or her schooling. However, it is not often acknowledged

that how and what we as researchers "count" and define as "success" can have an impact on the research outcomes that affect policies and programs for youth. Quantitative methodologies, driven by the limitations of data and definitions, don't allow us to capture in complex ways the qualitative schooling experiences of these students; many of these experiences influence the students' educational trajectories. From the design of the survey to the analysis to the reporting of results, we struggle with the balance among (1) generating reliable and generalizable results and understanding the importance of students' individual trajectories; (2) focusing on traditionally understood flashpoint moments in students' schooling experiences and analyzing a more holistic picture of schooling and education for these students; and (3) opening up an important area of study that could impact Native schooling and education as well as being conscious of the range of conclusions that can be drawn from studies such as this one. As researchers, we are committed to a further investigation of these unique trajectories, working to find ways to surface and examine multiple moments in the experiences of successful AI/AN/NH students.

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