2000

Along the Red Road: Tribally Controlled Colleges and Student Development

Ann Marie Machamer
University of California - Los Angeles

UNIVERSITY OF CALIFORNIA

Los Angeles

Along the Red Road: Tribally Controlled Colleges and Student Development

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Education

by

Ann Marie Machamer

2000

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

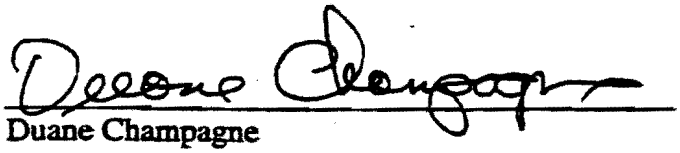
Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

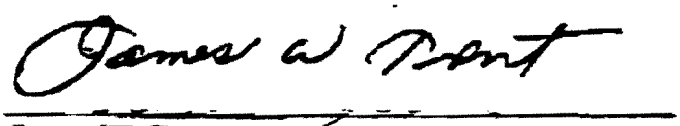
Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA

UMI®
800-521-0600

The dissertation of Ann Marie Machamer is approved.



Duane Champagne



James W. Trent

Helen Astin

Alexander W. Astin, Committee Chair

University of California, Los Angeles

2000

For the Creator who makes all things possible

For Hutash who makes all life possible

For the Ancestors who make my life possible

To the Descendants, for whom anything is possible

Table of Contents

List of Tables

Acknowledgments

I have always been taught that we never accomplish anything by ourselves and we should never accomplish anything for ourselves. It is all a gift that we must pass onto others. These words are a small token of my gratitude. I hope that this work proves helpful. In this way, I can return the infinite kindness shown to me. In the meantime, I humbly say thank you to:

-- my parents, Sylvia & Milton Machamer, and my siblings Leah, Fifi, Ryan, and Daniel for all their support both financial and emotional
-- my committee Sandy Astin, Lena Astin, Jim Trent, and Duane Champagne, for believing in me and my ability to pull this off
-- Natalie, Elton, Roselle, Vee, and the American Indian Studies Center staff, faculty, and students for making LA seem like home
-- Jessica Korn, Sarah Parrott, Anthony Antonio, Frankie Laanan, and all my fellow students at the UCLA Graduate School of Education
-- Tim McNiff, for his sense of humor that kept me sane
-- HERI and Bill Korn, Kit Mahoney, Mary Rabb
-- Enid Gruber the best mentor/friend a graduate student ever had
-- Tim Sanchez for showing me how to be strong
-- The Kellogg Foundation for their generosity not to just me but American Indian Higher Education
-- Elaine O'Brian and the American Indian Higher Education Consortium
-- The American Indian College Fund
-- John Orendorff & Joanne Seaman for their compassion and encouragement
-- The Institute of American Cultures, and The UCLA Chancellor's office for the fellowships that allowed my to grow as a scholar
-- all the tribal colleges that participated for trusting me and helping yet another Indian student reach her goal
--all the students who completed the survey—may of whom wrote of their personal struggles and victories while in college—I was touched and motivated by you-- You make me proud to be Indian--

VITA

May 29, 1970	Born, Santa Clara, CA
1993	B.A., History University of California, Los Angeles Los Angeles, CA
1995-96	Institutional Research Assistant D-Q University Davis, CA
1995-97	Research Assistant American Indian Studies Center University of California, Los Angeles Los Angeles, CA
1996	M.A., Education University of California, Los Angeles Los Angeles, CA
1997-98	Data Collection/Fieldwork Coordinator Public Health Institute, Alcohol Research Group Berkeley, CA.
1997-98	Pre-doctoral Fellow Institute of American Cultures University of California, Los Angeles Los Angeles, CA
1998-99	Doctoral Fellow Chancellor's Dissertation Writing Fellowship University of California, Los Angeles Los Angeles, CA

PUBLICATIONS AND PRESENTATIONS

Pavel, D., Sanchez, T., Machamer, A. Ethnic fraud, native peoples, and higher education. National Education Association Higher Education Journal. Summer 1994.

Machamer, A.M. (May 1995). What to do about Ethnic Fraud in the University. Invited speaker at the Medicine Ways Conference, Riverside, CA

Machamer, A.M., (April, 1997). Evaluations in Higher Education: A Tribally Controlled College. Paper presented at the Annual RETAIN Conference, Tempi, AZ.

Machamer, A.M., Gruber, E. Family and school attitudes and risk taking in American Indian adolescents and their peers. Journal of Educational Research. July/August 1998.

Machamer, A. Along the Red Road: Student Development of Alumni of a Tribal College. Tribal College Journal. Winter 1998-99

Gruber, E. & Machamer, A. Identifying covert risk behaviors from classroom indicators. Health Risk in Society (in press)

Machamer, A. The Last of the Mohicans, Braves, and Warriors: The end of American Indian Mascot in Los Angeles Public Schools. In Team Spirits (ed. Springwood, C., & King, C.R.) University of Nebraska Press (in press)

ABSTRACT OF THE DISSERTATION

Along the Red Road: Tribally Controlled Colleges and Student Development

by

Ann Marie Machamer
Doctor of Philosophy in Education
University of California, Los Angeles, 2000
Professor Alexander W. Astin, Chair

American Indian tribally controlled colleges were created to provide higher education in a familiar cultural setting to a population that is severely underrepresented in American higher education. Since little is known regarding student development at tribal colleges, the purpose of this study was to assess retention, talent development, satisfaction, racial discrimination, and cultural knowledge/identity at tribal colleges using American Indians who attended non-Indian institutions as a comparison sample. In early 1999, survey data were collected from students who entered fourteen tribal colleges and two Bureau of Indian Affairs (BIA) colleges and from American Indian students who entered non-Indian institutions in 1993 (n = 496).

Results indicate that the American Indian populations enrolling at tribal/BIA

colleges and non-Indian colleges are very different in a number of important respects. Although tribal college student bodies differ from each other on tribally linked variables (blood quantum, being raised on a reservation, speaking a Native language, and tribal membership), they are remarkably similar on variables considered to be traditional predictors of retention (income, parental education, and degree aspirations). The fact that tribal and BIA college students, compared to American Indians who attend non-Indian institutions, score much higher on tribally linked variables and much lower on traditional predictors of retention suggests that these colleges can indeed be regarded as a unique "system" of institutions.

The multivariate analyses investigated the influence of institutional type (tribal, BIA, low selectivity non-Indian, and high selectivity non-Indian) on the following outcomes: retention (AA/Vocational, bachelor's degree), talent development, satisfaction with the college experience, experiencing racial discrimination (from students and faculty), and cultural knowledge/identity. Attending a BIA college slightly reduces the student's chances of completing a bachelor's degree, while attending a tribal college slightly reduces a student's self reported growth in cognitive development. Otherwise, most of the outcome differences between tribal/BIA and non-Indian institutions can be attributed to the differential input characteristics of their students.

Chapter One

Introduction

Statement of the Problem

According to American Indian oral traditions, when the people were placed on the land, the creator taught them many things. They were instructed how to use and take care of the land, sea, and animal life. They were taught the ceremonies they must perform to change the seasons. The people learned the instructions of the creator well and passed them on for many generations. Traditional American Indian education was systematic and specialized. Children were assigned a tutor so that each child would be trained by an expert (Padilla, 1992). There were people who held knowledge regarding medicine, history, astronomy, warfare, ocean navigation, basketry, and every aspect of life necessary to the welfare of the people.

These systems of knowledge began to erode when American Indians were confronted by western educational values and practices. This new education consisted of the inculcation of western values and religion and the eradication of tribal ways. These often well-intentioned efforts have not served Indian peoples well. Many Indian people who have volunteered for or been forced into western education have been left caught between two worlds, Indian and non-Indian, fitting into neither. In June of 1794, the commissioners of Maryland and Virginia invited their Indian neighbors to attend William and Mary College. The Indians declined the offer in the following manner:

> We know that you highly esteem the kind of learning taught in those colleges, and that the maintenance of our young men while with you would be very expensive to you. We are convinced that you mean to do us good by your proposal, and we thank you heartily.
>
> But you who are wise must know that different Nations have different conceptions of things, and you will, therefore, not take it amiss if our ideas of this kind of education happen not to be the same with yours.
>
> We have had some experience of it. Several of our young people were formerly brought up at the College of the Northern Provinces. They were instructed in all your sciences. But when they came back to us, they were bad Runners, ignorant of every means of living in the Woods... Neither fit for Hunters, Warriors, nor Counsellors, they were totally good for nothing.

These observations of over two hundred years ago were prophetic. Nearly all that has been done to and for American Indians in the name of education has had a detrimental effect on Indian youth and society. Although other acts against American Indian nations such as removal, relocation, and termination have had terrible effects, the supplanting of American Indian traditional knowledge by western education has exacerbated social problems in American Indian societies. Today American Indians have the lowest levels of education of all ethnic groups and the highest levels of almost all social ills including unemployment, alcoholism, and suicide. The inability or unwillingness of Indians to master western educational systems coupled with the erosion of traditional forms of knowledge and values may all be contributing factors.

Until recently, western and traditional forms of knowledge were seen as mutually exclusive. However, twenty- five years ago a new approach toward Indian education sought to integrate these two types of knowledge and a new type of institution was created: the tribally controlled college. Tribal colleges, which now number around thirty, strive to have a positive impact on American Indian students and communities by

providing remedial, adult, and general higher education in a familiar cultural setting. They seek to allow Indian people to develop their academic and vocational skills while preserving and promoting tribal culture and values. It is hoped that these institutions will revitalize native communities and stand as symbols of hope for all Indian people. Yet, tribally controlled colleges, one of higher education's most innovative developments, are almost invisible even to those in the field of education.

Purpose of the Study

The overall questions guiding this study is: Does the potentially better cultural fit provided by tribal colleges result in measurable benefits for American Indian students? How do these unique colleges compare with mainstream community colleges in their impact on the American Indian student?

This exploratory study is designed to answer the following specific research question:

- How does attending a tribal college affect the American Indian student's degree completion, talent development, satisfaction, experience of racial discrimination, cultural knowledge, and identity?

- Are there identifiable differences in the types of American Indian students who attend different tribal colleges?

- How do tribal/Bureau of Indian Affairs (BIA) colleges compare with mainstream two-year and four-year colleges in terms of the type of students they enroll and student outcomes?

To gain preliminary answers to these questions, data on American Indian alumni from seventeen tribal colleges were collected via mailed surveys. Using the resources of the Cooperative Institutional Research Program (CIRP), a national comparison sample of American Indian students who attended non-Indian two and four-year colleges were also surveyed. First, comparisons of the samples were made regarding background characteristics. The second part of the study assesses differential impacts of institutional control (tribal, non-tribal) on selected outcomes such as degree completion, talent development, and satisfaction with the undergraduate experience. Comparisons were also be made between tribal colleges controlled by tribes and those run by the Bureau of Indian Affairs (BIA). This study tests several specific hypotheses regarding expected differences between tribal and non-tribal institutions. (See chapter 4)

A secondary purpose of this study is to determine the feasibility of developing an ongoing program of research that involves most of the tribal colleges in the United States. Through contact with the participating institutions made by the principal investigator in this study, issues relating to the logistical, political, and fiscal challenges of conducting such a program of research are explored in depth.

Background of the Problem

American Indian education has not been effective as measured by a number of traditional indices. For various reasons, American Indian educational attainment lags behind that of any other group. In addition, the fact that the majority of American Indians who manage to pursue higher education enroll in non-selective, two year institutions may negatively affect their chances of graduating and future status attainment, since attending one of these institutions tends to reduce the student's chance of earning a bachelor's or higher degree (Astin, 1975, 1977, 1992). Furthermore, there is an urgent need for research on all aspects of tribal colleges, given their increasing importance to Indian education and the paucity of quality studies on these institutions.

American Indians have the lowest levels of educational attainment of all major racial/ethnic groups in the United States (Astin 1982; Bowker 1993). American Indians are underrepresented at all levels of education and become increasingly underrepresented as the education level gets higher. Those American Indians who manage to enroll at four-year colleges have six-year degree attainment rates that are lower than those of all racial/ethnic groups (Astin, Tsui and Avalos, 1996). Poor study habits and underpreparedness have been given as reasons for higher levels of attrition among American Indians (Astin 1982, McNamara 1984), but these factors do not fully explain American Indians' low rates of degree completion (Astin, Tsui, and Avalos, 1996). Other studies explain student departure as a result of a poor fit between student and institution. If students feel they do not fit academically, socially, or culturally, they may leave because the school is not meeting their needs (Hossler, Bean, and Associates 1990). This may be particularly true of American Indians enrolled at certain non-Indian

institutions. For example, a 1990 report by the Student Affairs Information and Research Office at the University of California, Los Angeles found that American Indians at UCLA experienced serious problems with isolation and perceived barriers to involvement (SAIRO 1990). Tribal colleges hope to alleviate these problems for American Indian students by offering remedial and adult education and culturally relevant education. It is believed that at a tribal college, students can develop the academic or vocational skills they need in an environment that encourages cultural growth instead of creating cultural disharmony.

Over the past few years there have been increases in the numbers of American Indians enrolled at institutions of higher education. In 1990, a total of 103,000 American Indian students were enrolled in some type of college, representing an increase of 11 percent over 1988 figures (O'Brien 1992). However, the majority of American Indians (53%) were enrolled in two-year colleges. In fact, American Indians are more likely to attend a two year college (rather than a four year college) than are Asians, African Americans and Whites. Associate degrees make up more than 40 percent of the total number of degrees conferred on America Indians in 1989-1990, compared with 20 percent for Whites and Asians and 30 percent for African Americans and Hispanics (Pavel and Colby 1992).

The increased enrollment of American Indians in higher education must be viewed in light of their high concentration in non-selective, community colleges. While going to college can have a profound effect on the direction of a student's life (Kingston and Lewis 1990; Boyer 1987), the type of college a student attends can have a considerable impact on educational attainment and subsequent occupational achievement.

(Brint and Karabel 1990; Kingston and Lewis 1990; Boyer 1987; Manski and Wise 1983). As already mentioned, the probability of completing college is affected by college type. Specifically, students who start at a two-year, non-selective institution, with the intention of completing a bachelor's degree, have a lower probability of completing that degree than do comparable students who start at a four-year school, even when socio-ecenomic-status (SES) and academic ability are controlled (Astin, 1975, 1977, 1992; Velez 1985). One of the basic questions explored in the current study is whether the handicap imposed by beginning one's higher education at a non-selective, two-year institution is alleviated by attending a tribal college. Are tribal college students at the same educational disadvantage or does the better fit provided by tribal colleges compensate for this liability? How do the experiences of American Indian students at non-Indian institutions compare?

Observers of tribal colleges report that these institutions are serving students well. However, very few studies have been done to confirm this anecdotal evidence. As a result, few aspects of these institutions are well understood, especially the role they play in student development. Tribal/BIA colleges are simply understudied. Most of them lack the expertise and resources needed for empirical self-study. They usually do not participate in national studies such as the Cooperative Institutional Research Program (CIRP) and existing outcome studies on tribal/BIA college alumni are limited in number and scope. The few that have been done often focus on only one institution with small samples that limit the analysis to descriptive statistics. No study has utilized comparison samples of American Indians at non-Indian institutions. In light of this paucity of empirical research regarding student development at tribal colleges, the objective of this

proposed dissertation is to initiate a multi-institutional exploratory analysis of tribal college students, and a simultaneous parallel study of American Indian students enrolled at non-Indian institutions.

Historical Context

Formal education was recognized and used early in the history of America as a means of changing the American Indian. Once the idea of extinction was ruled out, the federal government turned to a policy of "civilizing" and Christianizing the American Indian. Assimilation through combined use of force, persuasion, or self-direction has been the dominant and consistent goal upon which educational policies and practices have been based. The history of American Indian education can be divided in to three distinct eras: the Mission Period (contact -1850s), the Federal Period (1850-1960s), and the Self Determination Period (1960s-present) (Oppelt, 1990).

During the Mission Period, religious organizations took responsibility to bring European educational disciplines to Native peoples. The French Society of Jesus became the first in the Great Lakes region in 1611 (Szasz and Ryan). Missionary educational efforts were undertaken in New Spain, New France, and in the British Colonies. Many of the country's first colleges --including William and Mary, Dartmuth, and Harvard-- were dedicated in part to the education of American Indians. Few American Indian students ever attended these institutions. As early as 1790 Congress appropriated money to missionary societies and to individuals in the effort to Christianize Indians (Thompson, 1979). Since mission schools tried to displace the beliefs of Native peoples with Western European theories of nature, science and religion, many American Indians experienced a strong sense of alienation (Thompson, 1979).

The process of alienation started by the mission schools was continued by the federal government with forced assimilation policies and boarding schools. This era focused on Indian children. By removing children from their homes, government officials ensured that the eradication of tribal knowledge and identity could by more efficient and cost effective. The era of federal boarding schools was begun by Richard Henry Pratt, who established the most famous of the industrial schools at an abandoned army cavalry barracks at Carlisle, Pennsylvania (Wilcomb, 1988). American Indian children were often times forcibly removed from their communities, in order to be educated using militaristic rules and harsh discipline with a curriculum emphasizing industrial and vocational training (Thompson, 1979). To increase the rate of assimilation, the "outing" system was created, by lending students to local farm families. The Indian children would spend summers with local families in exchange for domestic assistance. To many, this system was indentured service.

Conditions at boarding schools were harsh. Children were often malnourished, living in inadequate barracks, where they were forbidden to speak their own languages. Treatment was often physically abusive, and infectious diseases ran rampant. Many children died at school and many more attempted to run away. Those who did graduate found themselves caught between two worlds, fitting into neither.

A Senate probe report in 1928 resulted in the ground-breaking Meriam Report, the first major government report that assessed economic, social, and educational conditions of American Indians. The report recommended that children live in their Native communities, that native cultures be retained and condemned the practice of boarding schools. Yet, the basic goal of assimilation did not change even though it was

now dressed in more humanistic clothes. The Brophy Report (1966), the Kennedy Report (1969), the Havenhurst Report (1971), the report by the American Indian Policy review Commission (1976), and most recently Indian Nations at Risk (1991) all assess the position of American Indians in American society. Even though these reports span over 60 years and many different administrations, they give a similarly dismal picture of Indian education. The Kennedy Report called both the Bureau of Indian Affairs (BIA) and public school education "a national tragedy." These studies generally stress the need for increased funding for Indian education, and for increased Indian control and participation in practice and policy making.

That tribes can provide effective education to their own people has been clearly demonstrated by the Choctaw of Mississippi and Oklahoma and the Cherokees of Oklahoma, who designed their own school systems in 1841. These educational systems proved more effective than those of white communities of the day, with Cherokee literacy rates being higher than that of white populations in Texas and Arkansas. The Cherokee schools taught reading and writing in both English and the native language. In 1906, the Federal government took over the educational system of the Cherokee, beginning a downward spiral in student achievement that continues to this day (Christensen and Demmert, 1978).

The era of Self Determination was officially ushered in by Richard Nixon in a special message to Congress on Indian affairs:

> It is long past time that the Indian policies of the Federal government began to recognize and build upon the capacities and insights of the Indian people. Both as a matter of justice and as a matter of enlightened social policy, we must begin to

> act on the basis of what the Indians themselves have long been telling us. The time has come to break decisively with the past and to create the conditions for a new era in which the Indian future is determined by Indian acts and Indian decisions. (Nixon, 1971, p. 565)

This new Federal policy was manifested in regard to education with the passage of the Indian Education Act in 1972 and the Indian Self-Determination and Education Assistance Act in 1975. Indian people had already begun to takes steps toward self-determination. In 1969, two years prior to this legislation, the first tribally controlled college was opened by the Navajo Nation. The passage of the Navajo Community College Act (1970) helped to alleviate the financial problems at the college and set the precedent for federal support for tribal colleges (Oppelt, 1990). In 1970, the Pine Ridge Reservation chartered the Oglala Sioux College. The year following, Sinte Gleska College was founded at Rosebud Reservation (Oppelt, 1990). In less than thirty years, more than thirty tribal colleges have been established. What makes these colleges different is that they are created and run by Indian people. These institutions are revitalizing native communities and stand as a symbol of hope for Indian people. They have the potential of taking the best from western and traditional Indian systems. These forms of knowledge need not be mutually exclusive but can inform and sustain each other, creating individuals with strong cultural knowledge and pride who have the ability to become contributing tribal and global citizens.

Significance of the Study

This study contributes much-needed information on the special role that tribal colleges play in the education of American Indian students. This is the first study to examine student development simultaneously at several tribal colleges and to use a national comparative sample of American Indian students at non-tribal institutions in order to place results into the broader context of higher education. This study provides information on a little-studied population who are severely underrepresented in higher education.

It is expected that the results will be valuable to both tribal colleges and mainstream institutions alike. Findings will not only help tribal colleges to capitalize on their unique strengths and to deal constructively with their limitations, but may also assist mainstream institutions in better serving their American Indian populations.

It is also hoped that the research performed in connection with this dissertation will constitute a starting point for an Institute for the Study of American Indian Education. This Institute would collect longitudinal data on all tribal college freshmen and conduct regular follow-up studies, using American Indian students at non-tribal higher education institutions as a comparison group. This data base will not only assess student outcomes but will also collect longitudinal information on tribal economic indicators, education levels, substance use, and tribal activities to assess the effects the institutions are having not only on individual students but also on tribal communities as well. The ultimate aim will be to help tribes acquire higher education while

simultaneously developing and preserving their unique forms of knowledge, thereby benefiting individual tribal members, the collective tribal unit, and the global society.

Chapter Two

Literature Review

Introduction

Before examining the literature, the many limitations that plague most studies on American Indians should be noted. There are many difficulties with studies and statistics on American Indians. Many estimates of the numbers of American Indians in terms of population and educational statistics have been criticized both for severe undercounting and gross overcounting (Pavel, Sanchez, Machamer, 1994). There are also concerns over the reliability of most statistics about American Indians (National Center for Educational Statistics, 1995; Tierney, 1995; Hodgkinson et al, 1990; Fries, 1987). American Indians may be undercounted due to their residence in rural and isolated areas, reluctance to answer surveys, and invisibility because of low concentration in urban area. Overcounting, especially in universities and colleges, is caused by the large numbers of students who claim American Indian heritage when they are applying to college but who in later surveys, no longer maintain their ethnic claims (RAIN!, 1993; St. John, 1992; Rodriguez, 1991; AISC, 1989; McNamara, 1982).

Studies often have so few American Indians in the sample as to raise serious questions regarding reliability and generalizability of results. In addition, studies rarely break down data by tribe, even though differences by tribe, or by reservation vs. non-reservation status, may by great. Furthermore, the National Center for Educational

Statistics (1995) states..."because of factors such as, tribal and linguistic diversity, geographic dispersion, and preponderance in remote rural areas, most national studies have found it too costly to add supplement samples to address issues of concern to American Indian and Alaska Native education". However, as Tierney (1995) states, "...the focus should not be on whether 7% or 9% of those students who attend college actually graduate; everybody agrees that the percentage is abysmally low. The focus, then, should be on how to improve the situation." Despite the severe limitations of information regarding American Indian education and especially higher education, the general trends seem to be the similar. First, demographic trends are presented. Then American Indian participation in elementary/secondary and higher education is discussed followed by information on tribal colleges. The next section reviews the differential effects of attending selective versus non-selective institutions. Finally, a discussion is included regarding the theoretical frameworks, which guide this study: Social Reproduction Theory, and Social Integration Theory.

Demographic Trends

In the United States the American Indian population has reached 1.9 million. From 1980 to 1990, the American Indian population grew at a much faster rate than did the overall population (18 percent compared to 9 percent) even though American Indians still only represent 0.8 percent of the total population (O'Brien, 1992). Although estimates differ, the median age of American Indians has been reported as 16 years (Tijerina and Biemer, 1988) and 23.5 years (U.S. Census Bureau, 1980) compared to a median age of 30.0 years for the nation. Despite differences in estimates, by all accounts

the American Indian population of the United States is younger and is growing faster than is the overall population (Tierney, 1995). Because the American Indian population is so "young", the demands on higher education systems to serve this growing population will increase.

Elementary/Secondary Education

The majority of American Indian youth are enrolled in public schools. Eighty percent of American Indians in kindergarten through twelfth grade attended public schools, thirty-six percent attended public schools with high Indian enrollment (25% or more), and 64 percent attended public schools with lower Indian enrollment (NCES, 1995). BIA schools were found to be less likely to offer college preparatory and gifted and talented programs, more likely to offer compensatory programs (remedial math, and bilingual education), and less likely to have experienced teachers than are public schools with low Indian enrollment. The majority of students in tribal/BIA schools come from low-income families and are eligible to participate in free or reduced cost lunch programs.

Although, estimates of high school completion rates of American Indians vary widely, it is clear that American Indians have the lowest levels of educational attainment (Astin, 1982; Bowker, 1993). The NCES (1995) report found that 82 percent of seniors at BIA/tribal schools graduated in 1990, compared to 94 percent for schools with low Indian enrollment (18% and 6% dropout rates respectively). Another study reports a school dropout rate for American Indian of 35.5 percent, compared to 28.8 percent for the total population (O'Brian, 1992). Still other sources estimate that less than 60 percent of

American Indian students who enroll in the ninth grade will eventually graduate from high school (Doleman and Kaufman, 1985; Birdsell, 1984, Mingle, 1987). In 1990, 66 percent of American Indian who were 25 years old or older were high school graduates. This is an increase from 56 percent in 1980 but still lower than the overall rate of 75 percent in 1990 and 67 percent in 1980 (O'Brien, 1992). All estimates place American Indian high school completion rates lower than that found in all other racial and ethnic groups.

The college application rates of students attending BIA/tribal schools (33%) is lower than that of both public schools with high Indian enrollment (43%) and public schools with low Indian enrollments (56%). Mean SAT scores for American Indian were 388-verbal and 437-mathematical, compared to 424- verbal and 476-mathematical nationwide. ACT score showed similar disparities, with an American Indian mean score of 18 compared to 20.6 nationwide.

American Indians in Higher Education

In 1990, a total of 103,000 American Indian students enrolled in higher education, an increase of 11 percent from 1988 figures. American Indians are concentrated in a small number of institutions with almost 75 percent of American Indians being enrolled in only 79 institutions. In 1987, 35 percent of all postsecondary institutions had no American Indian enrollment (O'Brien, 1992).

American Indian degree completion lags behind that of any other racial and ethnic group at all levels (Astin et al. 1996; O'Brien, 1992). Nine percent of American Indians have completed four years of college, compared with 20 percent for the total population.

It is estimated that 85 percent of American Indian students who enter postsecondary institutions will not receive a 4-year degree (Birdsell, 1984). Another study of 79 institutions with at least 4 percent American Indian enrollment found that more than half (53%) of American Indian students left after the first year of college, and three out of four did not finish their degrees (Wells, 1989). A recent study conducted by the Higher Education Research Institute found that American Indians had the lowest Bachelor's degree completion rates after four, six, and nine years at all types of four year institutions. The lowest degree completion rates were found at Public 4-year colleges (27.7), and Public Universities (29.8), and the highest at Catholic Universities (61.3) and Private Universities (56.1). American Indian women completed college at higher rates than did their male counterparts (37.1% vs. 28.2% after nine years). The study reported that overall, input and institutional characteristics that facilitate or inhibit degree completion affect students from different racial groups in similar ways. However, American Indians entering college frequently displayed characteristics that strongly inhibit degree completion. Compared to other students, they are economically poorer, more often enrolled part-time, and are less well prepared academically (Tierney, 1995; Astin, 1982).

A longitudinal study (Brown & Robinson Kurpius, 1997) of American Indians who attended a non-Indian college in the Southwestern United States assessed differences between those who persisted and those who did not. The authors found that academic preparation, academic performance, and faculty and staff interactions discriminated between persisters and non-persisters.

The institutions they enroll in tend to be non-selective (Tierney, 1995;O'Brien, 1992). In fact, the majority of American Indians in higher education (compared to only

36 percent of whites) are enrolled in two-year colleges (O'Brien, 1992, reports 53 percent, while Tierney, 1995, reports 60 percent, and Pavel and Colby, 1992, report 58.7 percent). American Indians are also more likely to attend a two year college (rather than a four year college) than Asians and African Americans. Associate degrees make up more than 40 percent of the total number of degrees conferred on America Indians in 1989-1990 compared with 20 percent for Whites and Asians and 30 percent to African Americans and Hispanics (Pavel and Colby 1992).

Tribal Colleges

General Information

The rapid increase in the number of American Indians enrolled in two-year colleges may be partially explained by the expanding enrollment of tribally controlled colleges. The American Indian Higher Education Consortium (AIHEC) was created in 1972 to represent the interests of these colleges. Today, the consortium consists of twenty-eight tribally chartered institutions, three federally chartered Indian colleges, and Canadian institutions located in twelve states: Arizona, California, Kansas, Michigan, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Washington, and Wisconsin. All of these institutions are either fully accredited or candidates for accreditation. Enrollment in tribal colleges has been increasing at dramatic rates in recent years. In 1982, the enrollment of American Indians at tribal colleges was 2,100 (O'Brien, 1992). By 1991, the colleges had almost seven times as many students, with an enrollment of full and part-time students of 13,800, representing 14 percent of the American Indian higher education enrollment. In 1991 to 1992 alone, tribal colleges

recorded a 20 percent growth in full-time equivalent enrollment from 5,000 to 6,024. Most recent figures from1995-1996 report total enrollment at tribal colleges over a12 month academic year at 24,363 undergraduates and 260 graduate students (AIHEC, 1999). Increases in enrollment at tribal institutions has outpaces that of American Indians at non-Indian colleges. Between 1990 and 1996, fall enrollments at tribal colleges increased by 62% compared to 36% for mainstream colleges.

With the exception of a few institutions, all are located on a reservation and have very small student bodies of 500 students or less. When considering tribal college size, one must also put college enrollment in the context of tribal enrollment. Salish Kootenai College has over 500 hundred students and the reservation has a population of only 3,100. Little Hoop Community College has under 300 students but the reservation has less then 3,000 people (Carnegie, 1998).

Funding

In providing open access for all potential students, tribal colleges, like other community colleges, keep tuition low. However, unlike other community colleges, the local and state tax base for these institutions is non-existent. The states have no formal relationships with the tribes or institutions, and tribes do not tax their citizens. Tribes receive a large portion their operating funds through Public Law 95-471, the Tribally Controlled Community College Assistance Act. At its passing in 1978, Congress authorized $4,000 for each full-time equivalency (FTE) student and increased that amount in recent years to $6,000 per FTE. However, if the Budget Office decides that

spending must be cut, they may or may not send all of the funds appropriated by Congress. As a result, the 1980's saw a fall in actual tribal college appropriations to the amount of $1,900 per FTE (Tierney, 1995). Current funding for American Indian students at tribal colleges is $2,964 (AIHEC, 1999).

Although precise numbers are not available, public-4-year institutions in states with sizeable Indian populations receive between $6,800 and $11,000 per/FTE (Tierney, 1995). Public community colleges receive an average of $3,553 per/FTE (Badwound, 1990 and estimates indicate that in 1999, community colleges will receive an average of $4,743 per FTE form federal, state, and local sources (AIHEC, 1999). So, tribal colleges receive about $1,700 per student less than public community colleges do and nearly $5,000 less than the poorest 4-year institutions. Obviously federal funding has not kept up with the growth of these colleges nor has it ever reached the legally authorized levels.

Other federal agencies supply support but the level is woefully short of what is needed and the methods used to deliver funds can hinder the growth of tribal college programs. For example, regulations governing some of the money allocated for programs require that the Bureau of Indian Affairs (BIA) first develop procedures before funds can be utilized by the college. The BIA has sometimes had a tense relationship with Indian people and has even been accused of sabotaging colleges by not creating the proper procedures for up to three years (Carnegie, 1989). In addition, other moneys, such as Title III funds must be delivered through a sponsoring four-year institution. In some cases, money has been withheld from the tribal colleges until they agreed to spend it in ways seen fit by the sponsoring institution. These procedures tend to subvert the basic principle on which tribal colleges were founded: self-determination.

Tribal colleges have worked hard to increase the funding from existing sources and to develop new sources of funding. They develop partnerships with local businesses and corporations, lobby local, state, and federal governments, and solicit in the private sector. The American Indian Higher Education Consortium (AIHEC) created the American Indian College Fund. Although small, the fund aims to increase funding from diverse sources. Recently the U.S. Senate passed a bill that gives tribal colleges Land Grant Status. This bill promises an allocation of $50,000 per year per institution for instruction in food and agricultural sciences. It also authorizes the appropriation of $1,700,000 per year for five years to "assist the 1994 institutions in constructing research facilities." (Senate R-103-194). The fact that tribal colleges are focusing on self-sufficiency by developing individual and tribal resources does not mean that the U.S. government does not have a moral and legal obligation to Indian people. Tribal colleges see their roles in broader terms than mere education, jobs, or culture; they also strive toward empowerment. A truly empowered community is not vulnerable to funding sources when these sources choose to tighten the purse strings.

Institutions

Each tribal college is as distinct as its tribe, but there are similarities in philosophy and mission. Each tries to foster learning and self-sufficiency in an environment that has experienced generational demoralization and dependency. Tribal colleges seek to sustain cultural beliefs and values that have long been threatened with extinction and to empower the people who practice them. These institutions hold the promise to be catalysts of revitalization for their communities.

All tribal colleges hold culture and community in high regard, yet they must balance these with the tribe's educational needs. As Tierney (1995) states, the overarching goal of tribal colleges is "...to provide education and training commensurate with tribal aspirations for self-determination." Tribal colleges share four broad objectives: 1) service to the community, 2) vocational education, 3) preservation and transmission of the tribal culture and 4) general or transfer education. Mission statements may profess other objectives, but for the most part they fit into these rubrics (Oppelt, 1984).

Service to community takes many different forms depending on the needs of the community. Like many other community colleges, tribal colleges offer GED and adult education programs. When funds permit they also offer day care, responding to the needs of many single mothers. Given the high alcoholism rates on reservation, many colleges also offer substance abuse programs. Tribes also try to contribute to the community on a collective level. Salish Kootenai College, for example, requires its students to work in a tribal agency two days a week in exchange for free classes. The students get a free education and experience, and the understaffed agencies get volunteer workers. Several colleges work to promote economic viability within their reservations. Turtle Mountain, in North Dakota, works with local industry to train workers and strengthen productivity. Sinte Gleska, in South Dakota, has recently opened the Institute for Economic Development. This policy center explores solutions to the economic problems of the reservation. The Oglala Lakota college, in South Dakota, has worked with local companies and the government to provide grants to assist Indians in opening their own businesses (Carnegie, 1989).

Some tribally controlled colleges try to improve the political standing of their communities. In 1981, the Crow population made up 46 percent of the county's population, yet they had very little effect in local elections. The college actively worked to increase the number of American Indian voters. When this did not work, the college investigated and found that state district boundaries worked to divide the reservation. The Crow people took the issues to court and proved that the state was guilty of gerrymandering. The same college also proved discrimination in hiring by the county and the abuse of Crow children in public schools (Carnegie, 1989).

Vocational programs at tribally controlled colleges vary from college to college, as they are most often determined by the local economy. Each college focuses on the needs of the community members and their desire to remain on the reservation. For example, Salish Kootenai's first program was in forestry, capitalizing on Montana's forestry industry. Since the most available jobs on many reservations are offered by the federal bureaus and schools, there are certificate program offerings in secretarial skills and early childhood education, thus tailoring training to the local economy (Carnegie, 1989). Reservation unemployment rates tend to be extremely high sometimes as much as 80 percent. Clearly, in these communities where jobs are scarce and skills are underdeveloped, vocational training should have a prominent place.

Tribal colleges sustain and promote Native cultures in different ways. All tribal colleges have Native Studies programs that offer courses on Native culture, art, language, history and society. Many colleges try to put a native perspective into every class. Native cultures are not static, rather they are living, dynamic ways of looking at the world and these worldviews can be integrated into teaching styles and presentations. This

approach can bring a native perspective into each subject, from history to algebra. Faculty, staff and students work together to make this possible. At Little Big Horn Community College, in Montana, most math tests are open book, and any student who fails is encouraged to work with the professor and to retake the exam. They take the test over again until they can do 'A' work. This not only builds the student's self-confidence but it also reflects the Crow tribal value of forgiveness (Carnegie 1989). Biology classes can study local plants and animals and geography classes can focus on the natural surrounding topography. The ways in which tribal colleges transmit and promote culture will thus depend upon the unique history and present circumstances of the tribe.

Facilities

Given the severe funding problems at tribal colleges, it is not surprising that facilities are inadequate. However tribal college personnel have been quite resourceful in making the most of conditions that most people in higher education would find unacceptable. Tribal colleges have both centralized and decentralized physical arrangements. Navajo Community College, an example of a centralized campus is rare, in that it has modern facilities complete with a residency hall and library. Other reservations function better with a decentralized campus where the administration is housed in a central location while the actual classes are conducted in satellite locations throughout the reservation. This bypasses the need for expensive structures and works best on reservations where the people are spread out and transportation is difficult. It does have some drawbacks, such as the difficulty having adequate library service. Many colleges report the need for increased classroom space, science and math laboratories,

library buildings, community centers, and child care facilities (AIHEC, 1999). Although facilities are a high priority, most tribal institutions must put available resources into instruction and other more fundamental priorities.

Faculty/Staff/Administration

Faculty salaries at tribal colleges also lag behind that of other institutions (Tierney, 1995). Average salaries for faculty at public institutions range from 49,855 for four-year institutions and 43,730 for community colleges compared to 23,964 at tribal colleges. Faculty at tribally controlled colleges are at least half non-Indian. "The percent of Indian faculty members ranges from 33% to 86% with a median of 50%" (Oppelt, 1990). The numbers of qualified Indian faculty are small because of the low educational level of Indian people. However, the percent of Indian faculty is increasing.

Indian and non-Indian instructors are familiar with the tribal community where they teach and are sensitive to the needs of their students. They are generally well prepared for their duties, but are often in part-time positions. There also seems to be concern over the high rate of turnover especially among non-Indian instructors, a problem that may be due to the low pay levels and isolation on the reservation. Many are hired under the understanding that, as soon as a qualified Indian person is found, they will be replaced (Oppelt, 1990). It seems that as these institutions mature, the numbers of available Indian faculty will increase. The Oglala Lakota College has increased the number of Indian teachers in recent years from one to over one hundred (Carnegie, 1989). Often non-credentialed Elders are called in to teach Native Studies courses such as native language or traditional story telling.

As opposed to the mostly non-Indian faculty, tribal college administrators and staffs are almost all American Indians. At some schools, non-Indians have been hired until a qualified Indian person was found for the position. Administrators obviously should have some knowledge and appreciation of the local Indian culture. While tribal colleges are tribally chartered or sanctioned institutions, many are autonomous of tribal politics and leadership comes from the local community. At first, there were many problems finding administrators who were knowledgeable in higher education but as times passes, these dedicated staff people are learning their duties and developing the skills needed to run the colleges. Often they have to perform the duties of a number of different positions. One staff person may need to register students, counsel them on course selection and deal with financial aid.

Student Development

Tribal college students are often educationally disadvantaged (Tierney, 1995). They are usually first generation, older, and poorer than students at mainstream institutions. At Little Hoop Community College, 99 percent are first generation college students, and many are single parents with two or more dependents. The average age of students in 1990 was 32, although ages can range from 17-77 at a single college (Oppelt, 1990). At Standing Rock College, in North Dakota, 98 percent of its students fell below the poverty line (Carnegie, 1989). Many students are coming from failed experiences at other mainstreamed universities.

Most students who enter a degree program do not finish but when evaluating tribal colleges, it is important to keep in mind that these students might never experienced any post secondary education at all had it not been for the tribal college. These students

are usually unprepared academically and have many family responsibilities. Among students who leave, the most often stated reason was home responsibilities, followed by insufficient funds (Wright, 1986). Many students may not come with the expectation of getting a degree. It has been estimated that 50 percent of students who enroll do without the intent of getting a two-year degree (Wright. 1989). They may be coming for personal enrichment or they need one or two courses for transfer. This is not dissimilar to community college students across the country.

Although too few follow up studies have been done to yield conclusive evidence of tribal college effectiveness; the preliminary results for some tribal colleges look favorable. The 1989 Carnegie Foundation for the Advancement of Teaching report "Tribal College: Shaping the Future of Native America" gives the following reports:

-Dull Knife Memorial College in a survey of recent graduates found that half of those who completed a two-year degree went on to further study, while 70 percent of the graduates from the certificate programs pursued more education. In an area of very high unemployment, 83 percent of all graduates were working or in further study at the time of the survey and 91 percent of the certificate graduates were employed.

- Sisseton-Wahpeton Community College in South Dakota found in a 1988 study that 91 percent of its graduates were either fully employed or attending a four year institution.

-Turtle Mountain Community College found in a 1983 survey that 70 percent of its vocational graduates found a job immediately after graduation, in contrast to the 60-70 percent unemployment rates for the reservation.

-A Standing Rock Study found that less than 5 percent of its graduates were unemployed or not attending a four-year institution.

Studies also reveal a surprising amount of student satisfaction. In one study, 100 percent of the students indicated the colleges had assisted them in reaching their goals (Wright, 1986). In the same study, 94.7 percent were "somewhat" or "very satisfied" with their college. The most common complaint was the availability of courses a problem that may well be due to lack of institutional funding.

Every aspect of tribal colleges needs further study. The studies that have been done use samples that are too small to yield reliable or generalizable results. Small sample sizes also preclude the possibility of performing analysis other than descriptive statistics. The fact that these studies are not able to control for input and institutional characteristics that have been shown to inhibit degree completion may cause us to underestimate the effectiveness of these colleges. Furthermore, traditional evaluation may leave tribal colleges at a disadvantage, since they have objectives and responsibilities to their communities that non-tribal institutions do not have.

College Type and Degree Attainment

It is widely accepted that going to college can have a profound effect on the direction of a student's life (Kingston and Lewis 1990; Boyer 1987). More importantly, the type of college a student attends can have a significant impact on educational attainment and occupational achievement. (Brint and Karabel 1990; Kingston and Lewis 1990; Boyer 1987; Manski and Wise 1983). Although the number of American Indians in higher education has increased, the majority were enrolled in two-year institutions,

either public or tribally controlled, while their representation in four-year institutions remained stable or, in some states, dropped (Tierney, 1995). The significant increase in American Indian representation in higher education involvement is somewhat problematic in the light of studies assessing the effects of college type on degree and status attainment.

Research shows that students who start at a two-year institution have a lower probability of completing BA requirements than those who start at a four-year school, even when SES and academic ability are controlled (Astin, 1975, 1977, 1982; Dougherty, 1986; Velez 1985). Although some have described community colleges as among the most democratic institutions, ensuring access to those who would otherwise not go to college (Medsker and Tillery, 1971) others have criticized community colleges as institutions that "cool out" marginal students, and deny conditions for empowerment (Pincus, 1980; Grubb, 1989). In fact, two and four-year institutions could be thought of as constituting two different tracks in the higher education system that produce different outcomes (Velez 1985). In discussing the stratification in the higher education system, Trow (1984) and states that "advantage begets advantage". Students from higher status families attend higher status institutions.

Many factors have been shown to influence student college choice of selective vs. non-selective institutions: Socioeconomic status (SES), academic ability, parental education, parental expectations, peer support, ethnicity and high school quality, among others (Paulsen 1990; Hossler and Stage 1992; Hearn 1984, 1991). In general, higher SES, high academic ability, high expectations, and high parental education levels increase the student's chances of enrolling at a highly selective institution.

Underrepresented minorities and low SES students are thus more likely to attend low statues institutions as are students with less parental education and income, even when academic ability and achievement are controlled (Hearn 1991). In another study, academic achievement was clearly a key factor in college enrollment but a person's race and SES was important to determining where they went to college (Thomas 1979). Enrolling at a non-selective institution, in turn, reduced the student's chances of degree attainment.

However, Historically Black Colleges and Universities (HBCU's) may be an exception to this rule. A recent study (Astin, Tsui, Avalos, 1996) reported a simple correlation between attending an HBCU and degree completion of only -.01, meaning that African Americans who attended HBCU's were slightly less likely to complete their degrees compared to African Americans who attended other types of institutions. However, when academic preparation was controlled, HBCU students were more likely to complete their degrees, compared to students of similar academic preparation who enrolled at non-HBCU's. However, when selectivity was controlled, students attending HBCU's had a significantly greater chance of completing their degrees. These researchers concluded that there is "...something about the HBCUs' environments that enables them to overcome the usual negative effects that characterize most other non-selective institutions."

However, the authors warn that an individual's chances of degree completion depended upon what alternatives to the HBCU are available. If a student is considering a small non-HBCU, there may by no difference. If the student has the opportunity to attend a highly selective institution, the HBCU may decrease the student's degree

completion chances. However, if the student is considering a non-selective alternative, especially a larger institution, the HBCU would probably be a better choice.

Could these same findings regarding HBCUs shed light on the issues confronting tribal colleges? Could that same "something" in the HBCU environment that compensates for its non-selectivity also be found in tribal colleges? Perhaps, but the differences between HBCU's and tribal colleges must be acknowledged. Black institutions were originally created as part of a dual system that was supposed to provide black students with the same advantages that White students enjoyed (Tierney, 1995). They were not necessarily designed to be different form mainstream institutions. On the other hand, tribal colleges not only want to provide their students with the same educational advantages that mainstream institutions offer, but they also aspire to reinforce tribal culture and identity. So, although this comparison with HBCUs is interesting, it may not be entirely appropriate.

College Choice and Status Attainment

This study draws upon a number of theoretical frameworks that provide a backdrop against which American Indian higher education can be examined. First, we examine social reproduction and status attainment theory as defined by the writings of Weber, Collins, Bourdieu, and Unseem and Karabel. Next we address theories of social integration as conceptualized by Tinto and as criticized by Murguia, Padilla, Pavel, and Tierney.

Social Reproduction Theory

Social reproduction theorists see intergenerational status attainment as self-perpetuating, whereby degrees and cultural capital are conferred upon offspring of the ruling class. Education is thus central to social reproduction. Social reproduction has been influenced by Weber 's (1978) observation that differences in educational credentials affects the distribution of rewards in industrial societies. Collins (1971) points to the influence of educational degrees on the careers of those with high status. Theories of social reproduction have been particularly influenced by the recent work of Pierre Bourdieu and his concept of "cultural capital." Cultural capital is the material and immaterial resources and knowledge that upper-class families pass on to their children, thereby resulting in the reproduction of high status attainment (Bourdieu, 1973, 1977). Non-meritocratic factors in higher education reinforce status groups, as highly valued educational credentials create structural limitations to prestigious occupations in a supposed open market place by making a select few eligible for these positions (Persell and Cookson, 1990). The education system can be seen as selectively delivering "scholastic capital", which translates first into educational attainment and subsequently into the labor market (Unseem and Karabel, 1990). In social reproduction theory, upward mobility is both a motive for, and a result of, increased academic aspirations (Cohen, 1973). Bourdieu (1973) states that the educational system reproduces the distribution of cultural capital among classes because the culture it transmits is closer to the dominant culture and the model of "inculcation" is close to that found in high status families. Persell and Cookson (1990) further state that education "inculcates certain non-meritocratic personality traits which serve to produce the social relations with in a class

structure ." According to social reproduction theorists, not only does high status reproduce itself, but low status reproduces itself as well. The educational system thus tends to exclude those furthest removed from the dominant culture (Bourdieu, 1973). The theory of social reproduction has been succinctly put as the "Matthew Effect," where the rich get richer and the poor get poorer (Hearn, 1991).

In short, social reproduction and status attainment theories predict that students with higher SES will attend the most prestigious institutions, thereby achieving higher occupational status than low SES students with comparable academic ability. The implications here for American Indian students who tend to come from lower classes, are clear, especially in light of their heavy concentrations in two-year colleges.

Social Integration

Another theoretical framework that this study draws upon is social integration. Studies that use this framework presume that students drop out of college because of a lack of social or academic integration. Students leave an institution because they do not "fit" (Hossler, Bean and Associates, 1990). Tinto's model (1987) of student departure describes the process that leads to persistence or departure. Successful adjustment to college, according to Tinto, depends upon the student's ability to separate from past behaviors and values and to incorporate those of the institution. Since departures for academic reasons account for only 15% of dropouts, Tinto believes a lack of social integration is a major factor in leaving college. Lack of integration is held to result from two phenomena: incongruence and isolation. Incongruence occurs when there is a misfit between the needs, interests, and values of the student and the institution. Isolation occurs when there are not sufficient personal interactions to bind the student personally to

other people at the institution. For American Indian students, both incongruence and isolation are likely to be common occurrences.

Tinto uses the ideas of "rites of passage" and "ritual" to describe the processes whereby college students become socially integrated. He describes school as a "ceremony" which moves a person from one place in society into another. Again, separation from the past is emphasized. According to the social integrating theory, membership and integration are key elements to persistence. Positive integration will raise the level of "goal commitment" and "institutional commitment", thereby increasing the student's chances of graduating. Conversely, if negative experiences lead to insufficient integration and commitment they often lead to departure (Tinto, 1975, 1987).

Recently, researchers have begun to modify and suggest alternatives to Tinto's model and social integration when considering the notion of institutional "fit" as it applies American Indians. Murguia, Padilla, and Pavel (1991) conducted a study in which ethnicity was considered in the social integration model. They found Tinto's model to be generally applicable except that it needed to be refined to include ethnicity. Ethnicity serves to limit access to majority enclaves and as a result, ethnic enclaves become important to social integration at non-Indian institutions. According to this view, involvement in ethnic enclaves can increase the probability of graduating by increasing social integration.

Tierney (1992) has criticized social integration theory and the concepts used by Tinto when they are applied to American Indians. Tierney objects to what he calls the misuse of the term "ritual". He maintains that the term is used out of its anthropological and cultural context. Thus, the misinterpretation of ritual may have practical implications

that may be harmful for racial minorities. The reasoning here is that rituals take place within the context of a specific culture. Rituals and ceremonies take a person from one place in a society to another place within that same society, but Tinto's use of the term when applied to American Indians seems to overlook the fact that many American Indian tribes have their own rituals. Must American Indian students, in order to graduate from college, give up their own real rituals for the symbolic ritual of the dominant society?

Social integrationists like Tinto believe that success in college depends upon the student's ability to become socially and academically integrated. In order to do this the student must, at least in part, separate from his or her previous community. Tierney points out that " Native Americans will need to undergo a cultural suicide of sorts to avoid an intellectual suicide." Tierney thus, finds fault with social integration because it demands that the student conform to the institution. It places the problem with the American Indian student rather than with the institution.

The history of American Indian education illustrates the negative effects of the social integrationist viewpoint through attempts to integrate or assimilate American Indians into mainstream society (Cohen, 1973). Following social integration theory can thus lead to cultural conflict for the American Indian student, either from the institution or from the student's Indian community. Within the institution, many of the barriers to integration are subtle. They can be difficult for college staff and faculty to recognize and even more difficult for the student to articulate. Students are expected to adapt to the values of the institution, and if they do not, they may be thought of as immature or lacking in institutional commitment (McNamara, 1982). For many American Indian

students, institutional commitment may be weak because the costs of integration are too high.

Barriers to educational and institutional integration can come from external forces (Tinto, 1987). In many Indian communities, college is not seen as a priority, and may, in fact even be looked down upon by the community. The youth who attends college can be seen as a loss to the community because that young person has opted to adopt the "White mans ways" (McNamara, 1982). These external pulls on the students can be very strong and if institutional commitment is weak, as in likely with many American Indian students, it can lead to departure.

Theses theoretical frameworks will be brought together in this study to examine American Indian participation in higher education. Social reproduction theory serves to explain possible differences in the background and degree attainment of an American Indian student who attends a tribal, two-year, or four-year college. It also points to possible inequities in the higher educational system as it is experienced by American Indians. Social integration may help to explain student satisfaction and departure from traditional institutions, but the ability of tribal colleges to provide a better "fit"– and consequently higher student satisfaction and retention – may counteract the negative degree and status attainment effects of other non-selective colleges. Tribal colleges also have the ability to minimize conflicts between the students and their community with the institution.

Summary

The American Indian population is one of the fastest growing and youngest populations in the United States. By all accounts, American Indians have the lowest educational levels of any other racial or ethnic group. Although college enrollments have increased in recent years, the majority of this increase has been in two-year colleges. These colleges have been shown to decrease the student's chances of bachelor's degree completion. Social reproduction theory also points to inequities in the higher education, given that the highest-status students attend the highest status institutions, American Indians and tribal colleges are not "high status". According to Social Integration Theory, tribal and BIA colleges might increase persistence and student satisfaction because of the potentially better fit that they provide. The case of HBCU's add evidence to this hypothesis. However, the literature on tribal colleges is extremely limited, since the few studies that have been done suffer from many limitations. They often focus on only one institution and are therefor not generalizability to other tribal colleges. They also often have extremely low samples, which make reliability questionable, and limit the type of analysis that can be done. This study will resolve these problems while adding to the growing body of literature on these understudied institutions.

Chapter Three

Pilot Study

In the fall of 1995 and the winter and spring of 1996 a pilot study of Deganawidah-Quetzalcoatl University (D-Q U) was conducted. Students who had attended D-Q U between 1990 and 1994 completed surveys comparable to a survey completed by students who had entered non-Indian two-years colleges in 1987. The study yielded important information about student development at D-Q U compared with non-tribal institutions. Although causal relationships could not be established, students attending D-Q U, compared to the national sample, reported higher levels of student satisfaction, lower levels of learning and personal development, and somewhat lower rates of degree completion. Their transfer rates were comparable to the national sample. These results are especially impressive considering the low levels of academic preparedness of D-Q U students, the poor physical facilities, and the severe understaffing confronting the D-Q U community.

The pilot study also provided an opportunity to experience many of the logistical problems that are likely to be associated with collecting data at tribal colleges. Problems such as institutional reluctance to cooperate and low student response rates were encountered and effectively dealt with. Although this study had shortcomings that limit its generalizability and make it difficult to infer causation, it does add credibility to the hypothesis that there will be a better institutional fit provided by tribal colleges that could

compensate for the general tendency for community college to impede degree completion and student development.

Background on D-QU

In the early morning hours of November 3, 1970, a group of American Indians and Chicanos scaled the seven foot fence of a surplus US Army communications site seven miles of Davis, California to claim the campus of the newly formed D-Q University (Oppelt, 1990). This controversial event brought D-Q University into the public eye and it has remained controversial ever since. D-Q U has faced many situations that have threatened its existence but it has survived and grown despite the many setbacks.

D-Q U was originally a two-year institution for American Indian and Chicano students. Although originally intended to serve both groups equally, the enrollment and curriculum have leaned more towards American Indians. In the Fall of 1970 the 632-acre Army communications site was declared surplus, and educational institutions were invited to apply for the facility and land. Two institutions, D-Q U and the University of California, Davis (UCD) applied for the site. In late October, Senator George Murphy announced that UCD would be awarded the land even though the application process was still open and UCD's application was incomplete. This action prompted D-Q U proponents to occupy the land and file a law suit to enjoin the government from deeding the land to UCD. After a month of occupation, UCD withdrew its application. The occupiers, distrustful of the Department of Education, remained on the land until it was officially deeded to D-Q U in January, 1971 (News From Native California, 1989). The

controversial way in which D-Q U obtained its 30-year lease created local hostility and distrust of the institution. In 1971 local papers reported that the people at D-Q U were reading revolutionary literature, training with firearms, and sending radio signals to Peking (News From Native California, 1989).

From its inception, D-Q U struggled with inadequate finances, low enrollments, inadequate facilities, a vague and unclear mission, and governmental investigations. To add to the controversy, D-Q U reorganized in 1978 to qualify for PL 95-471 monies. To be eligible for these funds, tribal colleges must be chartered or sanctioned by a tribe and the governing board must be comprised entirely of American Indians. D-Q U became sanctioned by the Hoopa Valley and Soboba Indian tribes in 1977. In November of 1978, Chicano board members and faculty resigned (Stein 1992). Fifty Chicanos demonstrated in protest of what they believed to be the forced resignations of board and faculty members (Oppelt, 1990). There is disagreement as to whether the resignations were voluntary. Dave Risling, a member of the governing board and interim president of the college in the Spring of 1995, stated that the resignations were not forced and that they were necessary for the survival of the college (Risling , D, Interview, 1995). He maintained that this change made D-Q U eligible for federal monies (PL 95-471, the Tribally Controlled Community College Act) and established a more stable source of funds.

Problems at D-Q U persisted and became pressing during the late 1970's. The lease specifies that the enrollment must be at least 200 full-time students. Inability to meet this quota and other problems of mismanagement and inadequate programs caused increased concern among federal officials about D-Q U. The University's decision to

provide sanctuary to Dennis Banks, a fugitive from the state of South Dakota and co-founder of the American Indian Movement (AIM), heightened D-Q U's controversial status. In 1978 the FBI began a two year investigation (with no indictments) based on allegations of fraud by college officials. About fifty students were questioned. Among other things, the FBI considered the traditional Sun Dance to be a "Fanatical Rite." The following year the FBI named D-Q U "a major target case" (News From Native California, 1989). As a result, U.S. Attorney Herman Silas investigated the college but found no grounds for criminal prosecution (Oppelt, 1990). Prior to the Silas decision, the government froze the 1978-1979 federal student financial aid monies and the freeze continued with the 1979-80 funds. In 1981 the U.S. Dept. of Education and the Office of the Inspector General initiated an audit of D-Q U which required 228 days for the understaffed personnel of the college to complete. That same year the Department of Education again froze the student financial aid, this time without informing D-Q U. Despite these troubles, D-Q U was accredited in 1978 by the Western Association of Schools and Colleges (WASC) and was reaffirmed in 1982. In the WASC report D-Q U was complimented for its "unique approach to education." Ironically, in this same year the U.S. brought suit against D-Q U to retake the land and eject the college. In 1983 D-Q U filed a civil rights suit against Secretary Bell and the U.S. Department of Education alleging a wide array of "wrongful concerted conduct." This same year a federal judge issued a preliminary injunction ordering the government to restore D-Q U students' financial aid. In 1988 a settlement was signed by the U.S. and D-Q U after four years of negotiations. Despite all the legal problems and federal investigations, D-Q U has

managed to remain accredited and to retain its lease. In addition, no grounds for criminal prosecution were ever uncovered.

Throughout the turbulent history of D-Q U, the institution has managed to provide general and vocational post-secondary education to both Native and non-Native students. D-Q U has confronted many situations that have taken time, energy, and resources away from its mission to provide culturally relevant education to American Indian students. D-Q U has persevered despite situations that detract from the environment's being conducive to learning. The institution is understaffed, with some staff members performing multiple functions. Many of the faculty are part-time. The physical structures that make up the D-Q U campus are outdated and in need of extensive renovation. Two years ago, a portion of the dorm roof collapsed, luckily in a non-occupied area of the building. D-Q U's library, laboratory facilities, classrooms, dorms and campus are dilapidated and not what most educators would consider conducive to teaching or learning.

Why Study D-QU?

The state of California has the most reservations (106) and the highest population of American Indians of any state. Since D-Q U is the only tribal college in California, it has the promise and the responsibility to serve this growing population that is currently underserved by traditional institutions. No systematic study of students had ever been done at D-Q U. This pilot study was designed in part to supply D-Q U with information as to how to allocate scarce resources most effectively to alleviate problems and maximize results. It was also hoped that the results could benefit other tribal colleges and

small, poor institutions serving specific populations by showing how to maximize strengths and overcome weaknesses common to such institutions.

Objectives of the Study

The exploratory study had the following objectives:

- To understand why students choose D-Q U
- To gather demographic information on former D-Q U students
- To assess degree completion rates
- To assess reasons for degree non-completion
- To assess talent development at D-Q U
- To assess student satisfaction with their D-Q U education

An indirect purpose was for the principal investigator to establish trust with D-Q U, and credibility within the tribal college community.

Methodology

Sample

The target population consisted of all students who entered D-Q U between 1990 and 1994. A questionnaire was mailed with a promise of a raffle prize of $30 to one of those who responded. After the first mailing, phone calls were made to solicit more responses. In order to abide by privacy laws, I had to be hired by D-Q U as an

Institutional Research Assistant before the names, addresses and phone numbers of the former students were released. A total of 222 surveys were mailed.

The comparison sample comes from the 1987 Freshmen Survey and the 1991 Follow-Up Survey administered to a national sample of colleges and universities by the Cooperative Institutional Research Program (CIRP). From this total sample, only those who attended two-year colleges were used in the analysis. Because of their low numbers, a sample of American Indians who attended community colleges was not used in favor of a larger sample of all students who attended community colleges.

Instrument

The four-page questionnaire was designed to be directly comparable to CIRP data. Special questions were also included so responses could be compared with other tribal college studies. Variables includes demographic characteristics of students, degree aspirations, degree completion, reasons for choosing D-Q U, perceptions of D-Q U, employment status, reasons for departure, satisfaction, and talent development. A focal point of this study was a "Quick and Dirty" assessment of talent development (Astin 1993) consisting of questions where students were asked to report how much they had developed in each of a long list of talents such as critical thinking ability, writing ability, interpersonal skills and so forth. In the absence of longitudinal data, this is an effective way to analyze student perceptions of skill development.

Results/Discussion

Out of 222 surveys mailed, 53 were completed which is a response rate of 24 percent. Twenty-five were mailed back completed and 49 others were returned uncompleted due to wrong or outdated addresses. Exhaustive attempts were made to reach the remaining 148 students by phone yielding an additional 28 responses. Most of the remaining 120 unaccounted for students could not be reached by phone due to wrong or outdated phone numbers. None of the respondents who were reached by phone refused to complete the survey. Twelve students for whom accurate phone numbers were available could not be reached despite numerous attempts. Slightly more than half (52.8 percent) of surveys were collected over the phone, which may reduce the possibility that the sample consists of respondents with a positive bias toward D-Q U. This reliance on phone responses may lessen the problem of self-selection in mailed surveys, which tends to be biased in the direction of people who finished their programs and to underrepresented those who drop out of college (Astin et. al, 1996).

Respondents were evenly split between male and female (51.9% male 48.1% female) which closely resembles the gender ratio of the original sample of 222. This ratio differs from figures reported in the literature on tribal colleges where enrollments run as high as 75 percent female. D-Q U serves a majority, although not exclusively, American Indian student population (87.5% American Indian, 6.2% Caucasian, 4.2% Chicano, 2.1% Asian). Other tribal college enrollments are anywhere between 50 percent to nearly 100 percent American Indian. D-Q U is serving a pan-Indian population representing 21 different tribes. Although many of the tribes are indigenous to California, the majority come from other regions. (See Table 3.1) This finding was

expected because D-Q U is not chartered by any one tribe but is sanctioned by over 20 different tribes.

Table 3.1
Primary Tribal Affiliation of D-Q U students (N= 53)

Tribal Group	N	%
Not Applicable	6	11.5
Missing	4	7.7
Abenaki	1	1.9
Apache	2	3.8
Blackfeet	2	3.8
Cherokee	1	1.9
Choctaw	2	3.8
Chumash*	7	13.5
Costanoan*	1	1.9
Kiowa	1	1.9
Mojave*	1	1.9
Miwuk*	7	13.5
Navajo	2	3.8
Oneida	1	1.9
Piaute*	6	11.5
Pima	1	1.9
Pit River*	1	1.9
Pomo*	1	1.9
Quapaw	1	1.9
San Pasqual*	1	1.9
Tlingit	1	1.9
Tongva*	1	1.9
Yaqui	1	1.9

* California Tribal Nation

College Choice

The two top reasons students chose D-Q U were because it is an Indian college and because it is close to home. By contrast, the national sample responded that the "academic reputation" of the college and the fact that "graduates get good jobs" were the most important reasons for choosing their college. These findings are consistent with

previous studies, which found that tribal college students chose the college because of the fact that they were Indian colleges, and because of their close proximity (Wright, 1986, 1989; Katus, 1980). However, over 40 percent of the D-Q U students are coming from over 200 miles away. So, although D-Q U is close for large number of students, many others are willing to travel long distances to attend an Indian college.

Degree Completion/Transfer

D-Q U degree completion lags far behind that of the national sample. Sixty-two percent of the D-Q U students withdrew or took a leave of absence, compared to 18 percent of the comparison group. Only 23.1 percent took no time off from D-Q U while 61.1 percent did the same form the nation sample. D-Q U students are almost 3.5 times more likely to withdraw or take time off from school. However, D-Q U transfer rates are more promising. After attending D-Q U, 23.1 percent enrolled at a four year institution. Although community college transfer rates vary widely, this transfer rate is comparable to that of many other community colleges (Karabel, 1986). Nearly 19 percent of former D-Q U students hold an Associates degree and 8.3 percent have earned a bachelor's degree. Another 4.2 percent have earned a vocational certificate.

Degree Non-Completion

As predicted, D-Q U students frequently drop out because they had a child or because of other family responsibilities, reasons which did not rank highly for the national sample. (see Table 3.2) "Reconsidering goals and interests" was one of the top four reasons for both groups of students, but only the D-Q U students expressed a strong

desire to be closer to home. For the national sample, " changed career plans", "academic difficulties", and "financial problems" also figured prominently in the decision to drop out.

Of those who dropped out, 82.9 percent expressed a desire to come back to D-Q U to finish their education. In order to do this, students say they need: financial aid (89.4%), transportation (43.2%), child care (32.4%), and family housing (32.4%). It is interesting that even though many students reported needing financial aid, relatively few gave financial problems as a reason they left D-Q U. Is it possible that some of the barriers to degree completion, such as having a child, are not seen a financial considerations? Perhaps if D-Q U provided services such as affordable day care and family housing, more students would be able to complete their degrees.

Table 3.2
Reasons for Leaving College given most often by D-QU and National Samples

	D-QU		National
2.15	Had a Child	2.75	Reconsidered Goals and Interests
1.91	Family Responsibilities	1.80	Changed Career Plans
1.61	Reconsidered goals and Interests	1.73	Academic Difficulties
1.55	Closer to Home	1.68	Financial Problems

*1=not important reason, 2=somewhat important reason, 3=very important reason

Talent Development

Overall, the national sample reported more growth than the D-Q U sample. Using of difference of ± .15 as a yardstick, students attending non-Indian colleges rated themselves higher than the D-Q U sample in 10 areas of development, compared to two areas in which the D-Q U reported more growth. The remaining seven areas of development showed very small differences in means, .14 points or less with three favoring the national sample and four favoring D-Q U.

There were no consistent patterns of differences between the two samples in self-reported growth that can be classified under convenient rubrics such as academic development or personal development. The D-Q U students rated themselves higher in some areas such as "math skills" and "acceptance of different races" but lower in other areas such as "knowledge of a particular field" and "interpersonal skills".

The greatest overall difference was in favor of the national sample in "knowledge of a particular field" (.81). Perhaps the lower persistence rates of the D-Q U sample causes them to dropped out of school before they have taken classes in the major. The same explanation may be used to explain the differences favoring the national sample in the area of "job related skills" (.35). Additionally, perhaps the non-Indian colleges offer more numerous vocational courses and programs than does D-Q U.

The national sample reported greater growth in the cognitive areas of "general knowledge" (.32), "problem solving skills" (.26), "critical thinking" (.19). However, the D-Q U sample reported greater growth in "math skills" (.23) and to a lesser extent "academic confidence" (.11), and "writing skills" (.08).

Table 3.3 Talent Development at D-Q U and Nation Sample

Differences Favoring D-Q U (.15 and greater)	D-Q U (rank)	National (rank)	Difference
Math Skill	3.85 (11)	3.62 (16)	.23
Acceptance of different races	3.85 (10)	3.70 (14)	.15
Differences Favoring National Sample (.15 and greater)			
Knowledge of a particular field	3.75 (14)	4.56 (1)	.81
Interpersonal skills	3.63 (19)	4.40 (2)	.77
Religious beliefs	3.78 (13)	4.15 (4)	.37
Job related skills	3.80 (12)	4.15 (4)	.35
General knowledge	4.80 (2)	4.40 (2)	.32
Problem solving skills	3.90 (8)	4.16 (3)	.26
Public speaking ability	3.55 (21)	3.79 (11)	.24
Ability to work independently	3.90 (7)	4.19 (5)	.20
Critical thinking	3.96 (4)	4.15 (4)	.19
Ability to influence others	3.63 (18)	3.78 (12)	.15
Smaller Differences Favoring D-Q U (.14 or less)			
Academic Confidence	4.06 (3)	3.95 (6)	.11
Tolerance of different beliefs	3.88 (9)	3.80 (10)	.08
Writing skills	3.90 (6)	3.83 (8)	.07
Ability to work cooperatively	3.94 (5)	3.92 (7)	.02
Smaller Differences Favoring National Sample (.14 or less)			
Leadership skills	3.67 (15)	3.81 (9)	.14
Competitiveness	3.65 (17)	3.71 (13)	.06
Reading skills	3.65 (16)	3.66 (15)	.01
D-Q U Variables			
Knowledge of other tribes	4.29 (1)	N/A	
Knowledge of own tribe	3.58 (20)	N/A	

*1=much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger

Students in the national sample rated themselves much higher in terms of "interpersonal skills" (.77) and also reported greater growth in "religious beliefs" (.37). The reasons for these differences are also not clear. One possible explanation for the latter finding is in the wording. Perhaps American Indian belief systems are not

accurately reflected in the word "religion". Phrases that are more inclusive of non-western, non-Christian belief systems, such as "spiritual beliefs" may come closer to Native conceptions of "religion".

Another area of development in which the national sample reported more growth was "public speaking ability" (.24). Here we may once again be tapping into differences in cultural values and language. While public speaking ability is seen as an important skill in mainstream society and is encouraged at all levels of educational development, in traditional American Indian education pedagogy, quite observation and practice are valued over overt questioning and oral argumentation (Padilla, 1992). Perhaps D-Q U is not placing the same emphasis on public speaking that non-Indian colleges do. It is also possible that D-Q U students, even before entering college, simply place less value on the development of public speaking ability.

The national sample also reported more growth in the "ability to work independently" (.20), "ability to influence others" (.15) and, to a lesser extent, "competitiveness" (.06). D-Q U and national students reported nearly equal growth in the "ability to work cooperatively". The goal of cultural transmission in D-Q U's mission includes transmitting "Indian" values such as cooperation, non-competitiveness, and interdependence. These values are antithetical to mainstream cultural values such as, competition, independence and persuasiveness.

D-Q U students showed slightly more growth in "acceptance of people of different races" (.15) than did the national sample. This finding is important because it shows that, although D-Q U enrolls a majority of American Indians and teaches a curriculum that focuses on American Indian issues, it is not promoting the kind of

ethnocentrism in its students which might be expected at a college that serves predominantly one racial group and promotes racial pride and cultural knowledge. Perhaps because they come from distinct tribes and cultures, American Indians see themselves as very different from one another. Instead of being a culturally homogeneous campus, D-Q U may actually be a diverse campus that serves students from many different nations and cultures. This increased contact with different groups may explain why students who attend D-Q U, in comparison to students at mainstream institutions, reported greater growth in "acceptance of different races and cultures", and to a lesser degree, in "tolerance of different beliefs" (.08). Or, perhaps D-Q U is promoting cultural knowledge in a way that does not promote racial animosity.

Questions specifically designated for the D-Q U sample reveal that self-reported growth in "knowledge of other tribes" was substantially greater than growth in "knowledge of own tribe" (means of 4.29 and 3.55 respectively). These findings are not entirely unexpected, given that D-Q U does not serve one tribal group, and does not focus on only one tribal culture in the curriculum. Instead of learning just about their own tribes, the students at D-Q U are learning about other tribal groups. It is not clear if this growth in knowledge of other tribes is a result of the official curriculum or of interactions with peers. It is also possible that students come to D-Q U with a lot of knowledge about their own tribal culture so that they do not perceive that they are increasing their knowledge of their own culture especially in relation to how they are learning about other tribes. This finding may be unique to D-Q U and other tribal colleges that do not serve one specific tribe.

Student Satisfaction

As expected, student satisfaction with D-Q U is high. Fifty percent of the sample reported that they would definitely choose D-Q U again and 84.6 percent would recommend D-Q U to a friend or relative. In comparison to the national sample, the D-Q U students reported noticeably higher levels of satisfaction in seventeen areas. The national sample reported higher satisfaction in only four areas: "library facilities" (.47), "courses in major field" (.38), "job placement facilities" (.32), and "laboratory facilities" (.23). These findings were not entirely unexpected. D-Q U's limited resources may explain their student's lower satisfaction with the facilities and the availability of courses.

The D-Q U sample reported higher levels of satisfaction in a variety of areas of campus life from courses ("social science courses" .40, "humanities courses" .24, and "science and math courses" .18) to counseling/advising ("tutors/academic assistance" .98, "personal counseling" .85, career counseling" .55, "academic advising" .51). That these results might be attributed to the small size of the college (enrollment is usually under 200 students) and to D-Q Us' unique American Indian faculty is suggested by other differences favoring D-Q U: "class size" (.47), "ability to find a mentor" (.42), "opportunity to talk with professors outside of class" (.31), "contact with faculty and staff" (.18), and "diversity of faculty" (.15).

The fact that students report high levels of satisfaction with D-Q U is remarkable especially considering the obstacles D-Q U faces in terms of dilapidated facilities, part-time faculty, and being understaffed and underfunded. Of course, it may be that these high satisfaction ratings are a result of students' low expectations: D-Q U students might

not know what a college could or should provide. However, this seems unlikely since 50 percent of the sample have attended another college before enrolling at D-Q U and would therefore be aware of resources that other colleges offer. Thus, the specific reasons for such high satisfaction in the D-Q U sample remain unclear.

When respondents were asked about problems that most bothered them at D-Q U, 11.5 percent replied that there was too much drinking and drugs on campus, 17.3 percent reported having trouble with D-Q U staff, and 21.1 percent stated that the contentious political atmosphere created by the conflict between the on-site staff and the Board of Directors negatively affected their experience. Chi-square analysis revealed that only problems with/negative experiences with staff people had a significant relationship with overall college satisfaction ($p = .003$). Many of the respondents who had a negative experience at D-Q U said that they would come back if certain members of the staff were terminated, suggesting that they were not dissatisfied with the college in general but just with certain individuals.

While it could be that substance abuse on campus is a result of a lack of extracurricular activities or other campus life, research shows that American Indian adolescents have very high levels of drug/alcohol use while in high school (Gruber, DiClemnent, Anderson 1995). Perhaps the reason for the reports of frequent drug/alcohol use is that students are already frequently users when they come to D-Q U. Whatever the reasons, this is an issue that clearly merits further attention.

Table 3.4 Student Satisfaction at D-Q U and National Sample

Differences favoring D-Q U (.15 or greater)	D-Q U (rank)	National (rank)	Differences
Tutors/academic assistance	3.92 (6)	2.94 (21)	.98
Financial aid services	3.64 (16)	2.74 (23)	.90
Personal counseling	3.30 (23)	2.45 (27)	.85
Career counseling	3.47 (22)	2.98 (22)	.55
Student Housing	2.98 (27)	2.47 (26)	.51
Academic Advising	3.63 (18)	3.12 (19)	.51
Commuter Facilities	4.15 (3)	3.65 (9)	.50
Class size	4.15 (3)	3.68 (8)	.47
Campus health services	3.14 (26)	2.71 (24)	.43
Ability to find a mentor	3.77 (11)	3.35 (17)	.42
Social science courses	3.91 (7)	3.51 (11)	.40
Leadership opportunities	3.75 (12)	3.01 (20)	.40
Oppty to talk with professors	4.06 (4)	3.75 (6)	.31
Humanities courses	3.71 (13)	3.47 (14)	.24
Science and math courses	3.86 (8)	3.68 (8)	.18
Contact with faculty and staff	3.66 (14)	3.48 (13)	.18
Diversity of faculty	3.65 (15)	3.50 (12)	.15
Differences favoring National Sample (.15 or greater)			
Library	3.47 (22)	3.94 (3)	.47
Courses in major field	3.59 (19)	3.97 (2)	.38
Job placement facilities	2.18 (25)	2.50 (25)	.32
Laboratory facilities	3.19 (24)	3.42 (15)	.23
Smaller Differences Favoring D-Q U (.14 or less)			
Relevance of courses	3.48 (21)	3.39 (16)	.09
Extracurricular activities	3.64 (17)	3.57 (9)	.07
Interactions with other students	4.04 (5)	3.99 (1)	.05
Quality of instruction	3.80 (9)	3.77 (5)	.03
Small Differences Favoring National Sample (.14 or less)			
Campus social life	3.55 (20)	3.69 (7)	.14
Oppty to attend films and concerts	3.18 (25)	3.32 (18)	.14
Overall college experience	3.79 (10)	3.89 (4)	.10
D-Q U Variables			
Oppty to take cultural classes	4.45 (1)	N/A	
Instructors offering an Indian Perspective	4.35 (2)	N/A	

* 1=can't rate, 2=dissatisfied, 3=neutral, 4=satisfied, 5=very satisfied

Limitations

A major difficulty in conducting this study is that it was carried out as an outsider to the institution. As a result, there was a long delay in obtaining the names and addresses of respondents which, in turn, shortened the data collection time. With more time for data collection, more respondents could have been obtained.

Another difficulty is the low response rate, which prohibited more sophisticated analysis such as regression. American Indian students are notoriously mobile. More than half of the potential respondents could not be reached because of outdated addresses or phone numbers. It was not uncommon to reach someone by telephone who knew the respondent but was unsure of where he/she was living at the time. Many respondents did not even have a phone. As a result of this pilot study, this dissertation sought to have enough respondents to make possible the use of multivariate analysis to control for student input characteristics.

Another limitation of the D-Q U study is the comparison group. A sample of American Indians enrolled at mainstream institutions would have made a more appropriate comparison group than students in general at these institutions. Unfortunately, the national sample, which sampled small percentages of students at each college, had too few American Indians to use in this type of analysis. Also, the data for the D-Q U sample and the comparison sample were collected at different times. The longitudinal comparison sample was surveyed in 1987 and in 1991 and included only those students who entered college in 1987. The D-Q U sample was collected at one

point in time and included students who entered D-Q U during a four year span. By contrast, the proposed dissertation research will survey all students simultaneously and include much larger proportions of American Indian students at each mainstream college.

The generalizability of results to students at other tribal colleges may also be limited due to the "atypical" nature of D-Q U (Stein, 1992). D-Q U is not chartered by one tribe and is not located on or near a reservation. It caters to a pan-Indian population residing in mostly urban areas who may have other options for higher education. Most other tribal colleges address the needs of one tribal community which typically reside in remote areas where there are few, if any, other higher education options. This dissertation includes a number of such tribal colleges so that findings are more generalizable to all tribal college students. Analyses were also done to ascertain possible differences among tribal colleges.

Conclusions/Recommendations

D-Q U needs to make retention of its students a high priority. Many students come to D-Q U with the goal of receiving an Associate's degree and transferring to a four-year university, but few actually earn that degree. While lack of academic preparation no doubt plays some role in these low completion and transfer rates, other factors likely play a part as well. Child care seems to be very important for many D-Q U students as does transportation, financial aid, and family housing. Also, it might be possible to strengthen the transfer function of the college by creating closer relationships with four-year colleges and universities. These relationships could be both administrative (curriculum, visits to and from four year institutions) as well as more personal in nature

(for example a mentorship program between D-Q U students and American Indian students at universities). Students also appear to need more work on basic academic skills. The dissertation will explore these and other possible approaches for dealing with issues of retention and transfer at each of the tribal colleges.

Chapter Four

Methodology

The purposes of this study were threefold (1) to examine the diversity among tribal colleges and tribal college students; (2) to test several hypotheses concerning the educational efficacy of tribal colleges; and (3) to test the feasibility of establishing a national center for research on tribal colleges.

The general research question that was explored can be stated as follows: How does the development of American Indian students at tribal colleges differ from that of American Indian students at non-tribal colleges in terms of persistence, growth in specific talents, satisfaction, and cultural identity? Does the potentially better fit provided by tribal colleges compensate for the tendency for low selectivity colleges to impede degree completion and other student development outcomes?

To answer these questions, alumni of tribal colleges were surveyed together with samples of American Indians who have attended non-Indian colleges. The first part of study examines diversity among tribal colleges and makes certain comparisons among different tribally controlled colleges. Although tribal colleges are all independent institutions that have been developed to serve the unique needs of different tribes and populations, they all qualify under the Tribally Controlled College Act, are regionally accredited, and share certain similarities in governance, mission, and curricula which may tend to produce similar outcomes. Can this collection of institutions be described as a system of tribal colleges?

In addition to comparing students across different tribal colleges, comparisons were also made between tribal colleges and those institutions referred to as "BIA colleges", which enroll exclusively American Indians, have no ties with particular tribes, and are funded and administered by the Bureau of Indian Affairs (BIA). Unlike tribal colleges, these institutions attract American Indian students from across the country, are primarily residential, and tend to be much larger than other tribal institutions. These colleges may attract different types of students and may not place the same emphasis on cultural maintenance and tribal self-determination that tribal colleges do. Do these potential differences in student self selection and institutional environment have any effect on student development?

The second set of analyses tested five specific hypotheses derived from the general proposition that tribal colleges provide a better student-institutional "fit" for the American Indian student than do mainstream higher education institutions. After controlling for student and institutional characteristics, does attending a tribal, BIA, or non-Indian college affect outcomes such as retention, talent development, satisfaction, identity, and the experience of discrimination?

Hypothesis

Hypothesis 1: Tribal college students have lower rates of retention and degree completion than students at non-Indian institutions. After entering differences are controlled, there will be no significant difference in degree completion between students at tribal colleges and American Indian students attending non-Indian colleges.

Rationale: The lower educational attainment of students who start at two-year colleges has been well established in the literature. However, the better fit provided by tribal colleges, in terms of remedial help, small size, campus culture etc. is expected to increase tribal college student persistence and subsequent educational attainment. While pilot study findings reported lower degree attainment levels at D-Q U than in the mainstream two-year colleges, transfer rates and subsequent B.A. completion rates at D-Q U were comparable to those at other mainstream two-year institutions. However, in the pilot study, the comparison sample was composed primarily of non-Indians, who tend to have higher persistence rates than American Indian students do (Astin, Tsui, and Avalos, 1996).

Analysis: Crosstabulations and one way ANOVAs were used to for testing institutional differences in unadjusted rates. Blocked, stepwise regression was then be used to control for critical student input variables in order to compare the effect of tribal, BIA, and non-tribal colleges on persistence and educational attainment. Both BA and AA/Vocational persistence was considered.

Hypothesis 2: Talent development or value-added measures for tribal college students will be comparable to those of the students at both low and high selectivity non-Indian institutions. Tribal college students will report greater growth in Cultural Knowledge/Identity.

Rationale: The rationale here is similar to that given for the persistence and educational attainment hypothesis. Although the tribal college

students in the pilot study reported lower levels of growth on several measures than did students in the national sample, the fact that the national sample consisted primarily of non-Indians may make the application of these findings to this study inappropriate. Comparing only samples of American Indian students is expected to yield different results, especially when entering student characteristics are controlled.

Analysis: One way ANOVA analyses were used to determine unadjusted student outcome differences between Tribal, BIA and non-Indian institutions. Regression analysis was then used to assess institutional impact on those variables that showed significant between-group differences.

Hypothesis 3: Tribal college students will report more satisfaction their undergraduate experience than students who attended non-Indian colleges. The exception will be satisfaction with facilities where tribal college students will have lower levels of satisfaction.

Rationale: This hypothesis is based on the pilot study, which found high levels of satisfaction at D-Q U with almost all areas of the college experience except satisfaction with physical facilities, which produced somewhat less satisfaction than did the other areas measured. Although D-Q U is an "atypical" tribal college, some characteristics that might affect satisfaction, such as small class

size, accessible faculty/staff, and cultural classes, are similar to those in other tribal colleges.

Analysis: One way ANOVA analyses were used to determine unadjusted differences in satisfaction between Tribal, BIA and non-Indian institutions. Regression analysis was then used to assess institutional impact on those variables that showed significant between group differences.

Hypothesis 4: Tribal college students will report experiencing less discrimination from fellow students and faculty than will students at non-tribal colleges.

Rationale: It has been shown that minority students experience more discrimination on majority-white campuses than they do on minority campuses. American Indian students at tribal colleges would thus be expected to experience less discrimination than American Indians at non-Indian colleges.

Analysis: One way ANOVA analyses were used to reveal any simple relationships between experiencing discrimination and college type. Regression was also used to control for entering student characteristics in assessing the effects of college type on satisfaction.

Hypothesis 5: Tribal college students, in comparison to students at non-Indian institutions, will report greater growth cultural knowledge/identification with American Indian cultures.

American Indian students who attended non-Indian institutions will have stronger identity with non-Indian culture.

Rationale: Tribal colleges have specific goals of promoting tribal culture through curriculum and pedagogy. This should enhance students' tribal knowledge and identification with American Indian culture. American Indians at non-Indian colleges will not have the same opportunity to learn tribal culture while attending college.

Analysis: In order to test this hypothesis, one way ANOVAs were conducted to determine the simple relationships between college type and growth in tribal knowledge and cultural identity. Blocked, stepwise regressions were run to control for entering characteristics and determine the effects, if any, that institutional control has on identity.

Data Sources

To examine the development of American Indian undergraduate students, data were collected from American Indians who attended non-Indian and tribal colleges. Within the tribal college sample, the subset of institutions called "BIA colleges" was included. Samples of American Indian students from non-Indian colleges were identified by their completion of the 1993 annual freshman survey (Student Information Survey, or SIF). The SIF is administered by the Cooperative Institutional Research Program (CIRP), under the auspices of the Higher Education Research Institute at the University of California, Los Angeles and is co-sponsored by the American Council on Education.

Operating since 1966, this program of data collection is the largest continuous study of college students in the United States. The SIF provides information on students' background characteristics (personal characteristics, demographics, experiences in high school) as well as their values, attitudes, life goals and self-concept. American Indian students who completed the CIRP in 1993 were sent the "American Indian Follow-Up Study" (AIFUS) as were the samples of students who entered tribal colleges that same year. The follow-up questionnaire collected information regarding student development as well as college experiences and activities. (See Appendix B) The AIFUS also assessed retrospectively, some of the same entering freshman characteristics captured in the SIF.

In addition to the survey data, more qualitative methods such as institutional self-studies, site visits, and a focus group were used to help explain and compliment some of the quantitative results. The accreditation reports from twelve institutions were collected. Four of these are from institutions that did not participate in the survey portion of the study. Site visits were conducted at four institutions (two in Montana, one in North Dakota, and one in South Dakota). These site visits included tours of the institutions as well as discussions with administrators, students, and faculty. A focus group was conducted at the 1999 American Indian Higher Education Consortium Conference in Billings, Montana. This focus group piloted a new methodology called a reciprocal focus group.

Reciprocal Focus Group

The goal of this focus group was to pilot a new methodology where discussion is generated by the presentation of the statistical findings. This allows the researcher to incorporate the ideas and experiences of those closely linked to the phenomenon being studied into the interpretation of the findings. Although this technique is often used in

qualitative analysis, the use of quantitative data in this process is a novel approach. Allowing those who are being studied to have some direct input into the interpretation of the statistical analysis should provide important insights as to possible reasons behind, and meanings of, the statistical findings.

There were sixteen participants in the focus group representing many different perspectives and experiences: students, alumni, faculty, and staff from tribal colleges as well as other researchers and professionals familiar with tribal colleges and American Indian education. Participants were given a short presentation regarding the background of the study and methodology. Preliminary statistical findings were then presented and questions posed to generate discussion to help explain these findings. Participants readily grasped the concepts behind the complex statistical methodology and the lively 80-minute discussion was both helpful and insightful.

Description of the Samples

The names and address of tribal/BIA college students who entered as freshman or transfer students in 1993 were provided by the tribal institution. An equal number of American Indian students who attended non-Indian colleges were then selected by matching zip code and state to the tribal college sample. Since samples are cross-sectional, input variables that affect the academic outcomes of interest, such as parental education, family income, and high school GPA, were collected retrospectively.

Collection of Data

Follow-up data were collected through mailed surveys. American Indian students who participated in the 1993 SIF were sent questionnaires in January 1999. Tribal /BIA

colleges were approached to participate in this study between summer 1997 and Fall 1998. Institutions were sent information packets describing the study and its potential benefits to the individual college as well as to the tribal college community in general. Colleges were offered this service free of change and told they would receive detailed accounts of the findings. In order to participate, the colleges were to supply a list of all students who enrolled in the college in the Fall of 1993. Surveys (see Appendix B) were mailed to these students in January 1999. In addition to the survey, students were sent information regarding the study and the study director. To increase response rates, students who responded were to be entered into a raffle in which five winners could choose between $100 dollars or a pendelton blanket. Post cards were sent to alert students to the forthcoming survey and to weed out the bad addresses. One wave of the eight-page survey was sent to each participant.

Analyses

Several different methods of analysis were conducted to answer the research questions and test the hypotheses. Crosstabulations were used to discern the distribution of outcome measures by institutional type. Correlations and one way ANOVAs were used to determine the simple relationships between outcome measures and institutional type. The multivariate analysis drew upon the conceptual framework and methodology developed by Alexander Astin in the study of college impact (Astin, 1991). The Input-Environment-Output (I-E-O) model provides a means for controlling for different input characteristics of students and the self selection of students into different college environments before assessing the effect of college type on the relevant outcome measure. Blocked stepwise multiple regression, based on the temporal sequence of

occurrences of the independent variables, is used with this model. Students' input characteristics, as measured on the freshmen survey for non-tribal students and the retrospective questions on the AIFUS, are entered in the first block as control variables. Institutional characteristics, college experiences and intermediate outcomes are entered in subsequent blocks. Variables within each block are entered in stepwise fashion, until no additional variable within that block is capable of producing a significant reduction in the residual sum of squares, after which variables in the next block are entered. A question of considerable interest is whether the effect of college type (e.g., attending a tribal college) is mediated by particular college experiences (e.g., taking part in religious ceremonies).

Variables

Persistence

Students were classified as persisters or non-persisters based on their educational aspirations in 1993 compared to their status in 1999. Students were asked : "When you started college, what was the highest academic degree you intended to obtain?" (none, vocational degree, associate degree, bachelor's or higher). They were also asked to report the highest degree they currently hold (high school, GED, vocational certificate, associate degree, bachelor's degree or higher). One measure of persistence was used only with those who had initial aspirations to earn a bachelor's degree or higher, with persisters classified as those who at the time of the follow-up either (a) currently hold a bachelor's degree or higher or (b) are currently enrolled as a student. This is a relatively lenient measure in the sense that not all of those who are currently enrolled will necessarily graduate. This more lenient measure of persistence is appropriate for this study and

sample, given that American Indian students and community college students in general tend to take longer to reach their degree objectives.

Another separate persistence analysis was done made for those who initially aspired to earn either an Associate's degree or a vocational certificate, with persisters defined as those who have either earned a vocational certificate an Associate's degree (or higher) or are currently enrolled in college.

Talent development

Talent development was determined by self-reported growth in a number of academic and affective areas. The question "Compared to when you entered college as a freshman, how would you now describe your..." is followed by a series of "talents" and a five point scale ranging from "much stronger" (score 5) to "much weaker "(score 1). These talents include general knowledge, analytical and problem solving skills, knowledge of a particular field or discipline, ability to think critically, job-related skills, religious/spiritual beliefs and convictions, leadership skills, ability to work independently, interpersonal skills, tolerance of persons with different beliefs, acceptance of people from different races/cultures, confidence in your academic abilities, writing skills, public speaking ability, competitiveness, ability to work cooperatively, mathematical skills, reading speed and comprehension, ability to influence others, cultural knowledge of your tribe, cultural knowledge of other tribes, identity as an Indian person, and commitment to contribute to your tribe or American Indians in general.

In the interests of parsimony, the 24 items were combined into five scales on the basis of factor analysis (principal components, varimax rotation). The scales and the items used to define these scales (with factor loadings and alpha) are displayed in Table

4.1. Factor loadings range from .74 to .84. Alphas for the scales range from .65 to .86. The five factors have been identified as: Cognitive Development, Cultural Knowledge/ Identity, Interpersonal Skills, Racial Tolerance, and Basic Academic skills. Scale scores consisted simply of the sum of the student's responses to the high loading items shown in the table.

Table 4.1
Factor analysis results for talent development outcomes

Factor 1 Cognitive Development	Factor Loading	Alpha
General knowledge	.75	.86
Problem solving skills	.74	
Knowledge of particular field	.78	
Critical thinking skills	.73	
Factor 2 Cultural Knowledge/Identity		
Cultural knowledge of own tribe	.77	.81
Cultural knowledge of other tribes	.64	
Identity as an Indian person	.84	
Commitment to contribute to Your tribe	.82	
Commitment to contribute to American Indians in general	.80	
Factor 3 Interpersonal Development		
Leadership skills	.61	.81
Interpersonal skills	.56	
Public speaking	.47	
Ability to work cooperatively	.67	
Ability to influence others	.51	
Factor 4 Racial Tolerance		
Tolerance of people with different beliefs	.81	.85
Acceptance of people of other races	.84	
Factor 5 Basic Academic Skills		
Writing skills	.47	.65
Math skills	.68	
Reading skills	.62	

Separate regressions were not only run on each of the five factors, but also on self reported change in " job related skills" (given the importance of this goal to many American Indian students who enter a tribal college).

Student satisfaction

Student satisfaction was determined using the following item: "Please rate your satisfaction with the college you entered in 1993 on each of the aspects of campus life listed below." Possible answers range from "Very Satisfied" (score 4) to "Dissatisfied" (score 1). Specific areas of satisfaction are science and math courses, humanities courses, social science courses, courses in your major field, relevance of coursework to everyday life, overall quality of instruction, laboratory facilities, computer facilities, opportunity to discuss coursework outside of class with professors, opportunities to participate in extracurricular activities, campus social life, tutorial help or other academic assistance, academic advising, career counseling and advising, personal counseling, student housing, financial aid services, amount of faculty contact, opportunities to attend films and concerts, job placement service for students, campus health services, class size, interaction with other students, ability to find a faculty or staff mentor, diversity of the faculty, leadership opportunities, overall college experience, opportunities to take American Indian cultural classes, instructors offering an Indian perspective, and child care facilities.

As with the talent development measures, factor analysis was used to reduce these thirty-two items into the following six factors: Curriculum and Instruction,

Faculty/Student Contact, Advising/Counseling Support, Academic Facilities, American Indian Emphasis, and Support Services. (see Table 4.2)

Table 4.2
Factor analysis for satisfaction with college

Factor 1 Curriculum/Instruction	Factor Loading	Alpha Level
Math/Science courses	.62	.82
Humanities course	.52	
Social Science courses	.48	
Courses in major	.60	
Relevance of coursework to everyday life	.67	
Overall instruction	.64	
Factor 2 Faculty/Student Contact		
Amount of contact with faculty	.50	.79
Class size	.76	
Interaction with other students	.68	
Ability to find a faculty mentor	.65	
Factor 3 Advising/Counseling Support		
Tutorial help	.55	.89
Academic advising	.74	
Career counseling	.81	
Personal counseling	.73	
Factor 4 Academic Facilities		
Lab facilities	.59	.82
Library facilities	.75	
Computer facilities	.74	
Factor 5 American Indian Emphasis		
Opportunity to take American Indian culture classes	.86	.92
Faculty offering am American Indian Perspective	.89	
Factor 6 Support Services		
Job placement	.66	.79
Campus health services	.46	
Child care facilities	.64	
Opportunity for applied Learning	.63	

Factor loadings range from .46 to .89. Alphas for these scales range from .79 to .92. Six regressions were run with each of the six satisfaction factors as dependant variables. A seventh regression was run using overall satisfaction as the dependant variable.

Cultural Knowledge/Identity

Cultural identity was measured using established orthogonal assessments as laid out in the research of Oetting and Beauvais (1991). Respondents can be assessed on two independent identities: American Indian cultural identity, and Anglo cultural identity. Each was assessed using two questions: (1) Do you live the ....way of life?, and (2) will you be a success in the .... way of life? The authors report that, although a short scale may have modest reliability, it can be highly useful in studies using a large number of subjects or where strong relationships are expected. This study satisfies both conditions. In a large scale survey of adults reliability should be at least in the .70s. The two -item scale for American Indian Identity had an alpha level of .81, the Anglo Identity scale had an alpha level of only .54. Due to the low level of reliability of the Anglo Identity scale, these four items making up these scales were used as independent measures instead of two scales.

Identity was also assessed using the Zimmerman scale of American Indian identity. Respondents were asked to estimate the importance of maintaining tribal culture, knowledge of tribal culture, interest in learning about their culture, and how different they think Indian culture is from non-Indian culture (scored 1 to 5). Students were also asked to indicate their participation in nine different types of American Indian events including: Solstice Ceremonies, Pow-Wows, Sweatlodges, Seasonal Feasts,

Naming Ceremonies, Healings, Giveaways, Ceremonial Fasting, and other (self indicated). The alpha for this scale is .81.

Feasibility of an Institute for the Study of American Indian Higher Education

As stated earlier in this proposal, an important purpose of this study is to test the feasibility of creating an Institute for the Study of American Indian Higher Education. It is also hoped that the research performed in connection with this dissertation will constitute a starting point for such an Institute. This Institute would collect longitudinal data on all tribal college freshmen and conduct regular follow-up studies, using American Indian students at non-tribal higher education institutions from the CIRP as a comparison group. This data base will not only assess student outcomes but will also incorporate longitudinal information on tribal economic indicators, education levels, substance use, and tribal activities to assess what effects the institutions are having, not only on individual students, but also on tribal communities as well.

This dissertation provides an opportunity to explore some of the obstacles to creating such an institute. This study answers many questions about the degree of interest and ability of tribal colleges to participate in an ongoing program of study. Do tribal colleges have the trained personnel to conduct research and collaborate with a center? What are effective strategies for approaching colleges and gaining the trust of tribal college personnel? How much would such a program cost and what are the possible sources of ongoing funding? What levels of involvement from the institutions are possible and advisable in terms of instrument design, data collection, and analysis? While not exhaustive, this list of questions illustrates the types of logistical, political, and financial obstacles that may be involved in creating a national research center.

Chapter Five

Results

This chapter presents the results of the quantitative portion of the study. First, data collection results and response rates are reported. Next, the reliability of recall data is examined. After individual tribal colleges are compared to each other, tribal colleges as a group are compared to BIA colleges and Non-Indian colleges. Finally, the five hypotheses regarding persistence, talent development, satisfaction, discrimination, and cultural identity are examined.

Results of Data Collection

Of the twenty-nine tribal/BIA colleges approached, twenty-four agreed to participate in the study, four declined the offer and one was not open in 1993. Among those that declined, one college was planning its own study on alumni and did not want to compete for respondents. Another believed that releasing names and addresses of students violated federal laws regarding the privacy of student information, and still another institution was unable to devote staff time to compiling the requested information. One college does not allow outside investigators to conduct research on its students.

Of the twenty-four colleges that initially agreed, sixteen actually participated in the survey. There were eight colleges that initially agreed to participate but were

subsequently unable to provide the information needed to send their former students the survey. One institution's master data base was damaged, erasing the address field of students entering in 1993. At another college the old records could not be accessed in time for the study because the college was in the process of changing to a new student records system. The reasons why the remaining six colleges did not follow through with providing the requested information remain unclear. It is possible that some of them had the same difficulties other institutions had accessing, finding, or compiling the requested information. Obstacles to acquiring this information came at both administrative and clerical levels. In one case, administrative approval was granted, then revoked, then granted again, then called into question. With other colleges, administrative approval was easily obtained while clerical cooperation was difficult to secure. In some cases staff appeared to be too overwhelmed with their other work responsibilities to spend the large amount of time needed to compile the requested information (which in many cases had to be compiled by hand from hard copy files). In other cases staff may have simply been uninterested in or even opposed to research projects of this type and their unwillingness to provide the requested information may been a manifestation of passive refusal to participate.

Sixteen colleges (fourteen tribal, two BIA) provided the names and addresses of 3,417 students who entered as freshmen or transfer students in 1993. The comparison sample (n= 3,419) identified by their completion of the SIF in 1993 was selected to be matched to the tribal college students in three steps. First, only students who self identified as American Indian were selected. Next, each tribal college student was

matched to a student in the comparison sample by state of residency and zip code. Students in the final total sample (n=6,836) were sent postcards to alert them to the forthcoming survey and to eliminate the undeliverable addresses from the sample. One-thousand, three hundred thirteen (1,313) postcards were returned as undeliverable, yielding a viable sample of 5,523. These students (tribal college n=2,863, non-tribal college n=2,661) were sent the American Indian Follow-Up Survey (AIFUS) in the winter of 1999 (see Appendix B for a copy of the survey instrument).

One administration of the survey yielded 517 responses. Twenty-one surveys had to be dropped from this sample because they either were not American Indian or entered college in a year other than 1993. The remaining 496 responses represent a 9% response rate. Response rates were similar for tribal college and non-tribal college samples (see Table 5.1).

The response rates of individual tribal colleges vary widely, which may reflect the diversity among these institutions. One response was received from a student who attended a tribal college that had refused to participate. Because this student was American Indian and did enter in 1993, he/she was included in the analysis. It is possible that he/she attended two tribal colleges in that year, one of which was in the study. It is also possible that a friend or relative who received my survey, but chose not to participate, gave it to this student.

Table 5.1
Response rates

Institution	# before post card	# after post card	# of responses (%)
Tribal College 1	0	0	1
Tribal College 2	54	45	2 (4.4)
Tribal College 3	70	63	2 (3.1)
Tribal College 4	50	47	3 (6.3)
Tribal College 5	131	120	5 (4.1)
Tribal College 6	106	96	5 (5.2)
Tribal College 7	170	122	9 (7.3)
Tribal College 8	128	78	9 (11.5)
Tribal College 9	145	124	9 (7.2)
Tribal College 10	169	146	10 (6.8)
Tribal College 11	151	119	10 (8.4)
Tribal College 12	86	75	11 (14.6)
Tribal College 13	122	109	16 (14.6)
Tribal College 14	319	255	20 (7.8)
Tribal College 15 (BIA)	523	434	49 (11.2)
Tribal College 16 (BIA)	462	372	33 (8.8)
Tribal College 17	735	646	56 (8.6)
Total Tribal College	3417	2863	250 (8.7)
Non-Tribal College	3419	2661	*246 (9.2)
Total	6836	5523	496 (8.9)

* non-tribal college sample comes from 136 different institutions

Reliability of Recall Data

As noted in Chapter 4, the data on student development were all collected at the same time, even though the methodological approach (I-E-O model) calls for the use of longitudinal information that begins with student input characteristics. In lieu of such longitudinal data, students were asked to report their input characteristics in 1999. Income and initial degree aspirations were recalled as they were in 1993. Students were also asked to report the parents' highest education level. Some of the recalled variables

of the CIRP derived sample were compared to their responses on the SIF six years earlier in 1993. Four variables were tested: initial degree aspirations, family income, father's education, and mother's education. Table 5.2 reports the correlation coefficients between 1993 and 1999 variables.

Table 5.2
Correlation coefficients for 1993 and 1999 Variables

Variable	r	*p* level
Initial degree aspiration 1993/1999	.36	.000
Income 1993/1999	.70	.000
Father's education 1993/1999	.83	.000
Mother's education 1993/1999	.77	.000

While each of the 1999 variables has a significant correlation with its corresponding 1993 variables, not all measures are equally reliable. While students are reasonably consistent in reporting parental income and education, there is obviously a good deal of error in recalling initial degree aspirations. Also while the reliability of parental education is much higher (.83 and .77) it is far from perfect, which could reflect either error or perhaps some change in the parents' actual educational attainment during the six years. Parental income yields a bit more disagreement (r = .70). Given the significant correlations between these four variables in both 1993 and1999, it is concluded that with the exception of degree aspirations, input variables that have been collected through this method can be use with reasonable assurances about their accuracy.

Descriptive Analysis

The first set of descriptive data addresses the general question, "How and to what extent do different institutions that fall under the rubric of 'tribal colleges' differ from one another?" Given the considerable diversity among tribes and therefore tribal colleges, are these institutions similar enough in terms of their students' background characteristics to be treated as a homogeneous group for the purpose of comparing them with other types of institutions? This question is answered in two steps. First, the variation among tribal colleges is assessed. Second, students at tribal colleges as a group are compared to students at BIA and non-Indian institutions. If the between-group variation, when viewed in relation to the within group variation, is substantial, tribal colleges can be said to comprise a group distinct from non-tribal institutions despite their internal diversity. Additionally, this approach is used to assess whether BIA institutions should be placed within the tribal college rubric or in a separate category for purposes of data analysis. ANOVA analyses were conducted to compare the means of various tribal institutions on student background characteristics.

First, four tribal institutions with 16 or more respondents were assigned a number (referred to as TC2, TC3, TC4 hereafter). The tribal institutions with 15 or fewer respondents were collapsed into one category, TC1. TC1 represents the respondents of twelve different institutions from seven states (Montana, Minnesota, North Dakota, Wisconsin, New Mexico, Washington, and South Dakota). TC2 and TC4 are in Montana, and TC3 is located in the Southwestern United States. BIA institutions were not included.

Table 5.3
Means and between group differences (ANOVA) student background characteristics by tribal college

Variables	Means				Between Group Differences					
	TC1 (n=75)	TC2 (n=16)	TC3 (n=56)	TC4 (n=20)	TC1/ TC2	TC1/ TC3	TC1/ TC4	TC2/ TC3	TC2/ TC4	TC3/ TC4
Student Characteristics										
Blood Quantum (1=lowest,6=higherst)	4.58	5.46	5.88	3.70	*	*	*		*	*
Tribal Member (1=no,3=yes)	2.89	3.00	3.00	2.40			*		*	*
Raised on Reservation (1=urban,4=reservation)	3.56	4.00	3.86	3.36	*	*			*	*
Home Language (1=English, 2=other)	1.29	1.42	1.79	1.05		*	*	*	*	*
Mothers Education (1=least,2=most)	2.93	3.34	3.10	3.50						
Fathers Education	2.63	2.92	3.05	3.35			*			
Income (1=lowest,14=Highest)	3.52	3.77	3.72	3.19						
High School GPA (1=lowest,5=highest) 1	3.01	3.11	2.86	2.86						
Degree Aspirations (1=none, 7=Ph.D.)	4.04	4.43	4.16	5.00	*					*
Number of Children	1.65	1.00	1.38	1.36						

* Between group differences significant @ p< .05

ANOVA analyses show that tribal college students differ significantly among themselves in certain background characteristics (blood quantum, tribal membership, reservation raised, language spoken at home other then English) and little on others (mother's/father's education, income, degree aspirations, high school GPA, number of children). Table 5.3 shows that the means for blood quantum range from TC4 with 3.70 (just under half, i.e., 4.0) to TC 3 at 5.88 (just under full-blooded, i.e. 6.0). In terms of tribal membership, TC4 differs from all other institutions, with more students not enrolled in their tribe than students at other tribal institution. TC4 students are also the least likely to have been raised on a reservation, although the mean for each institution

falls between being raised in a rural setting and reservation (1= urban, 2= suburban, 3=rural, 4= reservation)[1]. [1]Students at TC4 are also the least likely to speak a language other than English at home.

That tribal colleges should differ on these variables is not surprising, given the heterogeneity of American Indian tribes. Variation should be expected on those aspects of Indian life that are linked with the unique circumstances of each tribe. For example, TC3 serves a tribal community with a large reservation and tribal membership. Tribal members are the majority on the reservation and constitute a nearly homogeneous Native population, a high proportion of which speaks their native language. In contrast, TC4 serves a small native population with a smaller proportion of native speakers. The reservation is much smaller and includes a substantial non-Native population. These differences are reflected in the variation between tribal colleges on variables that measure some of the more tribally linked aspects of American Indian life. TC4 students are less likely to speak their native language because members of their tribe in general are less likely to speak their native language. In other words, as tribes differ, so do their college student bodies.

Interestingly, there seems to be little variation among tribal institutions on other background variables. Level of mother's education, income, and high school GPA show no statistically significant differences. Father's education and degree aspirations had one and two significantly different means, respectively. These are variables the have been shown to affect student persistence significantly. In short, despite tribal heterogeneity

[1] Students were asked to indicate the setting in which they were primarily raised. Responses represent a continuum from urban to rural to reservation. The more urban a setting, the more contact with non-Indian cultures and the less contact with tribal culture.

and differences in student cultural characteristics, these institutions display remarkable similarity on traditional predictors of persistence.

Table 5.4 displays the ANOVA results for student background characteristics by institutional control. American Indian students attending Tribal and BIA colleges differ significantly from American Indians who attend Non-Indian institutions on nearly every student characteristic. Average self-reported blood quantum of tribal and BIA students is roughly 3/4 while it is under 1/4 for non-Indian students. Tribal and BIA students have significantly lower high school GPAs, degree aspirations, and father's education level. The differences in 1993 income level is particularly large with the average tribal college income $13,000, BIA $17,000, and Non-Indian $30,000 annually. Students at non-Indian colleges are significantly less likely to be tribal members or to speak their tribal language than are tribal or BIA students.

Tribal and BIA students differ on just two background characteristics: reservation raised and number of children. More tribal college students then BIA students were raised on a reservation. Tribal college students are also more likely than BIA and non-tribal college students to have had children when they entered college in 1993. Attending a BIA or non-Indian college is more likely to require the students to relocate. If students have children, they may be less inclined to relocate. Tribal colleges are perhaps offering higher education to a population that otherwise would not have attended college: parents of dependent children.

Table 5.4
Means and between group differences (ANOVA) student background characteristics by institutional control

Variables	Means			Between Groups Differences		
	Tribal (n-167)	BIA (n=83)	Non-Tribal (n=246)	Tribal/ Non-Tribal	BIA/ Non-Tribal	Tribal/ BIA
Student Characteristics						
Blood Quantum (1=lowest,6=highest)	4.99	5.07	2.89	*	*	
Tribal Membership (1=no,3=yes)	2.88	2.97	1.90	*	*	
Raised on Reservation (1=no,4=yes)	3.68	3.25	2.55	*	*	*
Home Language (1=English,2=other)	1.44	1.54	1.21	*	*	
Mothers Education[a] (1=least,2=most)	3.10	3.33	1.97	*	*	
Fathers Education[a]	2.89	3.10	3.85	*	*	
Income[b] (1=lowest,14=highest)	3.58	4.28	7.07	*	*	
High School GPA (1=lowest,5=highest)	2.99	2.92	3.35	*	*	
Degree Aspiration (1=none,7=Ph.D.)	4.42	4.11	5.54	*	*	
Number of Children	1.45	.53	.37	*		*

* Between group differences significant @ $p < .05$

[a] 1 =grade school or less, 2=some high school, 3=high school, 4=some college, 5 =college degree, 6=graduate degree

[b] 1 = less than 6,000, 2 = 6,000-9,999, 3 = 10,000-14,999, 4 = 15,000-19,999, 5 = 20,000-24,999, 6 = 25,000-29,999, 7 = 30,000-39,999, 8 = 40,000-49,999, 9 = 50,000-59,999, 10 = 60,000-74,999, 11 = 75,000-99,999, 12 = 100,000-149,999, 13 = 150,000-199,999, 14 = 200,000 or more

It is clear from this analysis that the American Indian students who choose to enter a tribal or BIA college are significantly different from the American Indian students who enter non-tribal institutions. Specifically, tribal and BIA college students not only score much higher than do non-tribal college students on tribally linked factors such as blood quantum, tribal membership, and being raised on a reservation but they also score much lower on variables that predict retention: income, high school GPA, degree aspirations, and father's education level.

Multivariate Analyses

To examine the comparative impact of college the different environments on student development, four dichotomous institutional control variables were created: tribal college, BIA college, low-selectivity non-Indian, and high-selectivity non-Indian. Selectivity, which is based upon entering SAT or ACT scores, is used to stratify non-tribal colleges because tribal and BIA colleges are all non-selective. In this way comparisons between Indian and non-Indian colleges can be made independently of selectivity. Since the range in selectivity of the non-Indian sample was very large, the low selective non-Indian group was defined to be roughly comparable in selectivity to the American Indian colleges (SAT verbal plus math composite of 950 or lower).

A second methodological decision was made to drop a series of variables from the analyses because of validity concerns. Students were asked: "Please indicate how often you have engaged in the following activities in the past year" (1 = never, 4 = often). The specific activities were: socialized with friends, felt homesick, felt overwhelmed, felt depressed, experienced discrimination from students, experienced discrimination from faculty, participated in Indian ceremonies, and participated in Indian cultural events." While the aim of this set of items was to determine their activities and experiences in the students' last year in college, the question did not specify where it was that they had these experiences. For most students who had dropped out of college, this question would be recording experiences and activities they engaged in after leaving college. It was then determined that since these variables had questionable validity for many students (they were not measuring what they were intended to measure), they were dropped from the

analyses for persistence. In the other analyses, being retained was included as an independent variable to contend with the problem of students who dropped out.

Persistence

Table 5.5 displays the percentages of students who completed their desired degree by type of institution. Non-tribal college students have the highest rates of completion of AA/Vocational degrees (66%) followed by tribal colleges (61%) then BIA (55%) institutions. BA completion rates show much greater variation, with non-tribal college students being twice as likely as tribal or BIA college students to earn a BA or higher (60%, 31%, 27% respectively). From this analysis it appears that attending a tribal or BIA institution inhibits degree completion. However, since it was shown earlier in this chapter that Indian and non-Indian institutions have significantly different student populations – students at tribal and BIA colleges have more negative predictors of persistence than do American Indians at non-Indian colleges – we cannot know if these different rates are attributable to institutional factors until we control for the differential characteristics of the entering students.

To ascertain the independent contribution of institutional control to persistence, two regressions were run on separate groups of students 1) those who entered wanting either an associate's degree (AA) or Vocational certificate and 2) those who wanted a BA degree or higher. To control for variables in the temporal sequence of occurrence, independent variables were entered in six blocks: background characteristics, cultural knowledge/identity, college environments, college activities, talent development outcomes, and satisfaction outcomes. The cultural knowledge/identity block is treated as

input variables in these two regressions, although it can be argued that identity as reported in the follow-up could have been affected while the student was in college. For the purposes of understanding persistence of American Indian students, however, we are treating cultural knowledge/identity as one of the characteristics students bring with them to the college. In other analyses they are used as intermediate outcomes and as dependent variables.

Table 5.5
Degree attainment* by institutional control

Degree	Tribal College % (n)	BIA College % (n)	Non-Tribal College % (n)	Total % (n)
A.A/Vocational or Higher	61 (78)	55 (51)	66 (12)	59 (141)
B.A. or Higher	31 (74)	27 (26)	60 (231)	51 (331)

* Student are considered as "retained" if they either a) completed degree sought (or higher) or b) are still enrolled.
Note: n's in parenthesis indicate base used to compute each percent

AA/Vocational Degree Completion

Table 5.6 contains the standardized regression coefficients for both entering and non-entering variables at selected blocks. Standardized regression coefficients for each step can be found in Appendix C. Nine variables entered the regression equation significantly with the criterion for entry set at $p < .05$ and account for about 30 percent of the variance in AA/Vocational degree completion (R-squared = .22, multiple R = .49).

Of the environmental variables of interest, selectivity was the only one to enter the equation. None of the institutional control variables enter the equation (tribal, BIA, low selectivity non-Indian, high selectivity non-Indian) after inputs are controlled. Most

of the variation in degree completion rates by institutional type can be explained by the selectivity of the college and the students they enroll rather than by institutional control. Simple correlations show that tribal colleges (r = -.17) have a significantly lower rate of AA/Vocational degree completion and that high selectivity-non-Indian colleges (r = .19) have a significantly higher rate. However, attending a tribal college becomes non-significant after the background characteristics enter. So, most of the negative "effect" of attending a tribal college on attaining a AA/Vocational degree can be explained by the fact that tribal college students have higher blood quantum and tend to feel less successful in a non-Indian way of life and because tribal institutions are low selectivity institutions. Similarly, the positive association between attending a highly selective non-Indian institution and AA/Vocational degree completion (r = .19) can be explained by the fact that the students who enroll at such an institution have lower blood quantum (Beta = .11 after inputs) and because they are highly selective (Beta reduced to -.01).

In summary, when it comes to AA/Vocational persistence, type of college does not directly affect retention. The negative relationship between attending a tribal or BIA college and degree completion can be almost entirely explained by the types of student who enroll at these institutions (those with higher blood quantum, and do not feel they are successful in a non-Indian way of life) and by the low selectivity of these colleges. Once these characteristics are held equal, the negative effects of attending an Indian institution are eliminated. Selectivity, which had been shown previously to enhance retention among students in general (Astin, 1993) and students of color (Astin, 1982), can also be regarded as a peer group measure where the peer "norm" in the highly selective institutions is degree completion. In other words, tribal and BIA colleges have lower retention rates

because they enroll the types of students who are less likely to graduate and because they are not highly selective institutions. In short, there is nothing inherent about tribal and BIA colleges other than their low selectivity that inhibits AA/Vocational degree completion.

Table 5.6
Predicting AA/Vocational degree completion (n=308)

AA/Vocational Degree Completion

Variables in the Equation	Multiple R	r	Beta after BC	ID	E	CA	Final Beta
Background Characteristics (BC)							
1. Blood Quantum	.27	-.27**	-.30**	-.27**	-.22**	-.17**	-.13*
2. Age	.30	.07	.13*	.14*	.16*	.13*	.16*
Identity Variables (ID)							
3. Success in Non-Indian way of life	.35	.23**	.19**	.20**	.18*	.15*	.12*
Environmental Variables (E)							
4. Selectivity	.37	.21**	.15*	.13*	.13*	.10*	.08
College Activities (CA)							
5. Time spent in classes	.41	.21**	.19**	.19**	.18*	.19*	.16*
6. College GPA	.44	.26**	.19**	.16*	.15*	.16*	.16*
Talent Development (TD)							
7. Knowledge of a particular field	.45	.30**	.23**	.20**	.18*	.13*	.12*
Satisfaction with College (S)							
8 .Satisfaction with tutorial help	.48	-.11	-.13*	-.15*	-.15*	-.14*	-.20**
9. Satisfaction with opportunity to participate in extracurricular activities	.49	.13	.09	.06	.06	.07	.13*
R-squared			.09	.12	.13	.18	.22
Selected Variables not in the Equation							
Tribal college		-.17*	-.16*	-.13*	-.11	-.11	-.11
BIA college		-.10	-.01	.00	.02	.05	.05
Low selectivity Non-Indian		.08	.04	.02	.07	.05	.04
High selectivity Non-Indian		.19*	.11	.11	-.01	.01	-.02
Success in American-Indian way of life		-.34*	.06	.03	.02	.00	.01
Lives American Indian way of life		-.08	.06	.06	.07	.06	.09
Lives non-Indian way of life		.01	-.01	-.06	-.06	-.05	-.05
Zimmerman identity scale		-.11	.05	.05	.04	.03	.05

* Statistically significant at $p < .05$
** Statistically significant at $p < .001$

Two background characteristics entered the equation: blood quantum and age. Simple correlations show that the student with higher blood quantum is less likely to graduate (r = -.30). However, after other variables are controlled, blood quantum, although still significant, explains much less of the variance in degree completion (final Beat = -.13). Much of the negative influence of blood quantum on degree completion can be explained by the fact that students with higher blood quantum also tend to feel like less of success in non-Indian way of life, tend to enroll at low selectivity colleges, and have lower college GPA's.

It is interesting that of all of the other background characteristics measuring level of association with tribal culture (tribal membership, speaking Native language, living on a reservation) do not enter the equation. Simple correlations are significant and negative but loose significance once blood quantum has been controlled. Why blood quantum enters and the other cultural background variables do not is not clear. There must be something that the variable "blood quantum" is measuring about American Indian students that is not measured by the other background variables. Perhaps blood quantum is picking up on academic underpreparedness or a lower level of importance placed on higher education in the home or community. It also may be a proxy for American Indian identity or a composite of the other background variables. All of the cultural background variables are highly correlated with each other, and when blood quantum is removed from the regression, the other cultural background variables do enter the equation. When considering the effects of blood quantum on persistence and other outcome measures, it is important to keep in mind that the "genetic" aspects of this measure are inextricably confounded with the more socio/economic/cultural aspects of American Indian history

and life in the United States. The strong correlation of blood quantum with all of the other tribally related and socio-economic variables in the data set make this clear.

Although the simple correlation for age is not significant (r =. 07), by the final step it is a significant predictor of AA/Vocational persistence (final Beat = .16). Other things being equal, students who are older are more likely to graduate. The effect of age becomes stronger when blood and selectivity enter the equation (i.e. these variables exert a "suppressor effect" on age). In other words, the simple correlation of age with degree completion would be stronger if it weren't for the fact that older students tend to have higher blood quantum and enroll at non-selective institutions.

Of the five variables measuring cultural knowledge/identity, only one enters the equation: feels successful in a Non-Indian way of life. The other four (lives an American Indian way of life, lives a non-Indian way of life, feels successful in an American Indian way of life, and Zimmerman identity scale) did not enter. Simple correlations for these other variables are not significant, with the exception of feeling successful in an American Indian way of life (r = -.34), but this variable looses significance when blood quantum enters (Beta = .08). In other words, having a strong identity as an Indian person, living an American Indian way of life, and feeling successful in an American Indian way of life does not place students at a disadvantage when it comes to completing an associates degree or vocational program.

Bachelor's Degree Completion

Table 5.7 shows the standardized regression coefficients for both entering and non-entering variables at selected blocks. Standardized regression coefficients for each step can be found in Appendix D. Twelve variables entered the regression equation

significantly with the criterion for entry set at $p<.05$ and account for about 48 percent of the variance in BA degree completion (R-squared = .48, multiple R = .69). As with AA/Vocational degree completion, students' background characteristics explain most of the variation in degree completion among different than institutional types with one exception: BIA colleges.

Despite their low baccalaureate retention rates (as reflected in the simple correlation of -.32), tribal colleges no longer differ in their retention rates from non-tribal colleges once the blood quantums and incomes of their students are taken into account (i.e., note the Beta of only -.09 $p > .05$) after student background characteristics are controlled. However, attending a BIA college has a negative association with BA degree completion ($r = -.28$) that remains negative even after input variables and selectivity are controlled (Beta = -.14, $p < .05$). Although selectivity plays an important role in BA completion, it does not fully explain the greater tendency of BIA students not to transfer and complete a four-year degree successfully. These data suggest that there is something about the environment of BIA colleges, beyond their status as non-selective institutions, that inhibits BA degree completion.

One possible explanation of the positive effect of selectivity on retention may be the peer or cohort effect of attending a non-selective college. At low selectivity institutions, the norm may be to stop/drop out. (Note that the non-completion rates for BA seekers are 69 and 73 percent at tribal and BIA colleges, respectively; see tables 5.5). If there is not a strong student culture of transfer and BA completion, that desired goal may be much more difficult for students to achieve even when academic ability is held equal. Basically, students tend to do what their friends do. If the majority of students'

friends are not achieving their educational goals, that "norm" will impede that student's chances of degree completion (see Astin, 1993).

Table 5.7
Predicting bachelor's degree completion (n=217)

BA Degree Completion

Variables in the Equation	Multiple R	r	Beta after BC	ID	E	CA	Final Beta
Background Characteristics (BC)							
1. Blood Quantum	.45	-.46**	-.36**	-.36**	-.28**	-.27**	-.16*
2. Income	.49	.37**	.21**	.17*	.15*	.16*	.13*
Identity Variables (ID)							
3. Success in Non-Indian way of life	.52	.24**	.16*	.16*	.14*	.15*	.10
Environmental Variables (E)							
4. Selectivity	.56	.38**	.23**	.22*	.20*	.18*	.13*
5. BIA College	.57	-.28**	-.18*	-.17*	-.14*	-.13*	-.18**
College Activities (CA)							
6. Time spent in classes	.60	.21**	.19**	.21**	.18*	.18*	.15 *
Talent Development (TD)							
7. Knowledge of a particular field	.62	.40**	.25**	.22**	.21*	.18*	.25**
Satisfaction with College (S)							
8. Tolerance of people with different beliefs	.64	.05	-.05*	-.06	-.07	-.09	-.17*
9. Opportunities to attend films and concerts	.65	.27**	.18*	.17*	.14*	.14*	.12
10. Lab facilities	.67	.02	.01	-.02	-.09	-.10*	-.17*
11. Opportunity to discuss classwork with professors outside class	.68	.27**	.19*	.18*	.15*	.14*	.13*
12. Humanities	.69	.25	.18*	.16*	.11*	.11*	.11*
R-squared			.24	.27	.33	.37	.48
Selected Variables not in the Equation							
Tribal college		-.32*	-.09	-.08	-.09	-.07	-.07
Low selectivity Non-Indian		.11	.03	.02	.11	.08	.04
High selectivity Non-Indian		.33**	.15*	.15*	-.10	-.05	.02
Success American Indian way of life		-.16*	.04	.03	.02	.00	-.02
Lives American Indian way of life		-.31**	-.03	-.02	.00	.00	-.03
Lives non-Indian way of life		.08	-.01	-.05	-.05	-.05	-.03
Zimmerman identity scale		-.27**	.02	.04	.01	.00	.02

* Statistically significant at $p < .05$
** Statistically significant at $p < .001$

It is interesting that attending a tribal college does not impede BA degree completion while attending a BIA institution does. What factors account for the significantly different persistence patterns of these seemingly similar college

environments? There are, in all likelihood, a great many differences between these two types of colleges, but one key difference may be in the control of the institution. Tribal colleges are founded upon a philosophy of self-determination. Tribes have the sovereign right to determine their futures without interference from the federal government. Tribal colleges can thus play an important role in giving young tribal members a sense of empowerment and belonging. Perhaps the sense of autonomy from this underlying philosophy is an important ingredient in retaining tribal college students, an ingredient missing from the BIA college environment.

Two background characteristics enter the equation for bachelor's degree completion: blood quantum and income (Simple correlations are -.46 and .37 respectively). Blood quantum remains significant at the last step (final Beta = -.16) but looses much of its predictive strength when income and selectivity enter the regression. In other words, much of the negative association between blood quantum and BA degree completion can be explained by the fact that those with higher blood quantum also have lower incomes, attend lower selectivity colleges. These two variables account for half of the negative association between blood quantum and degree completion.

Income also remains significant at the last step (final Beta = .13) but looses a good deal of its strength when blood quantum enters and a bit more when success in a non-Indian way of life and selectivity enter the equation. In other words, students with lower incomes tend to have high blood quanta, to feel like less of a success in a non-Indian way of life, and to enroll in low selectivity colleges.

As with AA/Vocational degree completion, only one of the five cultural knowledge/identity variables enters the equation: feeling a success in a non-Indian way of

life. This could in some ways be a self-fulfilling prophecy, in the sense that entering college feeling that they are not successful in a non-Indian way of life may make students less likely to persist. However, since students knew whether they had persisted or dropped out when they answered these questions, there is obviously some possible circularity here since being a persister may strengthen student's belief that they are successful in as non-Indian way of life. The other four variables (success in an American Indian way of life, live an American Indian way of life, live a non-Indian way of life, and the Zimmerman identity scale) loose significance when blood quantum enters. Most of the effect that these variables have on degree completion can thus be explained by the blood quantum of the student. Students with high blood quantum are also more likely to live an American Indian way of life, feel successful in an American Indian way of life, and have high Zimmerman identity scores.

These two regressions show that blood quantum affects retention more than any other input variable. To further examine these relationships, crosstabulations between blood quantum and retention were conducted. The results are presented in Table 5.8. Although the relationship is not completely linear, there is a strong tendency for students with higher blood quanta not to complete their desired degree at both the AA/Vocational and Baccalaureate levels. Given the very small number of cases with lower blood quanta taking vocational courses, the percentage difference on this dependent variable must be viewed with caution. (These small n's, by the way, indicate a strong tendency for students with low blood quanta not to be enrolled in vocational or AA programs). However, among those seeking bachelor's degrees, the effect is striking: students with

the lowest blood quanta are more than twice as likely to earn a bachelor's degree as are students with the highest amount of American Indian blood.

Table 5.8
Retention* by blood quantum

Degree	1/16 % (n)	1/8 % (n)	1/4 % (n)	1/2 % (n)	3/4 % (n)	4/4 % (n)	Total % (n)
A.A/Vocational or Higher	100 (2)	66 (3)	100 (9)	58 (24)	50 (28)	56 (65)	60 (131)
B.A. or Higher	53 (58)	71 (60)	69 (46)	51 (49)	12 (23)	28 (75)	50 (310)

* Retention is based upon entering degree aspirations

Talent Development

To determine the effects of institutional control on talent development, separate regressions were run on six dependent variables: five talent development factors and self reported change in job-related skills. (For a description of the method used to determine the talent development factors, please refer to chapter four.) To control for different input characteristics, variables were entered in six blocks: background characteristics, reasons for attending college, environmental variables, college activities, Indian identity/knowledge, and persistence.

Table 5.9 presents the regression coefficients after the background characteristics block entered the equations for all six factors. When reading the table, please note that the regression coefficients presented are the Betas after the first block (background characteristics) has entered and not final Betas. Simple correlations are given in parenthesis below the Beta. The reason for reporting the results of six different regressions from this stage in the analysis is to see patterns in the results and to focus

Table 5.9
Predicting Talent Development (Betas after input characteristics have been controlled)

	Talent Development Factors					
	Gognitive Development (n=291) Beta (r)	Cultural Identity/ Knowledge (n=273) Beta (r)	Interpersonal Development (n=281) Beta (r)	Racial Tolerance (n=327) Beta (r)	Basic Academic Skills (n=306) Beta (r)	Job Skills (n=344) Beta (r)
Control Variables						
Blood Quantum	-.30*** (-.37)*	.05 (.35)*	-.04 (-.12)			-.18*** (-.20)*
Degree Aspirations	.18*** (.30)*		-.18* (.22)*			
Attended a continuation high school	-.14*** (-.19)*		-.18*** (-.21)*		-.12*** (-.14)*	
Went to college to gain appreciation of ideas				.20*** (.19)*	.13*** (.13)*	
Went to college to update job skills	-.09** (-.24)*			-.04** (-.05)		.06** (.01)
Socialize with friends of different races	.25*** (.33)*	.17*** (.11)	.31*** (.35)*		.26*** (.27)*	.22*** (.26)*
Importance if living close to family				.08 (.08)	.11*** (.11)*	
Importance of attending college	.19* (.23)*		.19** (.21)*			
Spent time in clubs/groups	.10* (.14)*	.22*** (.23)*				
Feels successful in Non-Indian way of life	.20* (.27)*		.22*** (.26)*	.17*** (.17)*		
Completed desired degree or higher	.22*** (.23)*				.14*** (.13)*	
Environmental Variables						
Selectivity	.10 (.26)*	.00 (-.18)*	-.03 (.07)	.03 (.03)	.04 (.06)	.02 (.09)
Tribal college	-.14* (-.30)*	.00 (.15)*	-.09 (-.15)*	-.06 (-.07)	-.09 (-.11)	-.09 (-.17)*
BIA College	-.02 (-.17)*	.05 (.21)*	.05 (-.04)	-.01 (-.02)	.01 (.00)	.00 (-.05)
Low selectivity non-Indian	.05 (.17)*	-.02 (-.19)*	.09 (.13)*	.04 (.05)	.03 (.05)	.04 (.10)
High selectivity non-Indian	.11 (.28)*	-.02 (-.21)*	-.05 (.06)	.04 (.04)	.04 (.06)	.05 (.13)*
Multiple R (R-squared)	.61(.38)	.70(.49)	.55(.30)	.42(.18)	.44(.19)	.39(.15)

* Beta significant at p < .05 level only after inputs ** Beta significant at p < .05 level only at final step
*** Beta significant at p < .05 level after inputs and at final step * correlation coefficient significant at p < .05

attention in the possible effects of environmental variables (especially institutional control). For the control variables section empty cells indicate that the variable did not enter the equation for that factor. The environmental variables of interest are listed at the bottom of the table. Regression coefficients are listed for all environmental variables even if they did not enter the equation. An asterisk indicates that the Beta is significant after background characteristics are held constant. Two asterisks indicate significance at the final step only. Three asterisks indicate that the Beta is significant at both steps (after input block and at final step).

The most striking finding is that, with only one exception, none of the five environmental variables entered any of the regressions. Since there were six dependent variables, there were thirty opportunities (6 X 5) for one of the five environmental variables to enter any regression. Thus, the one that did enter, tribal college in the regression for cognitive development, could well be a chance occurrence (using the p = .05 level of confidence, we would expect 1 in 20 to enter by chance).

Cognitive Development

The regression for cognitive development accounts for 38 percent of the variance. As already indicated, attending a tribal college is the only environmental variable that enters the equation (beta after inputs = -.14), but it looses significance by the final step. Students who attend a tribal college will report less growth in development even when background characteristics are held constant. However, once reasons for going to college are controlled (specifically going to college to update job skills), this negative effect is not significant. Much of the negative relationship between cognitive

development and attending a tribal college is explained by the background characteristics (higher blood quantum, lower degree aspirations and attended a continuation high school) and the fact that tribal college students tend to go to college to update their job related skill. Perhaps curricula and activities that encourage cognitive development (general knowledge, problem solving skills, knowledge of particular field, and critical thinking skills) are not emphasized at the tribal college. The extra emphasis placed on activities such as remediation, vocational skills, and cultural knowledge may result a less emphasis on cognitive development.

The other environmental variables of interest have significant simple correlations that loose significance after input characteristics are controlled. That blood quantum has a negative relationship with cognitive development helps to explain much of the tendency for tribal and BIA students to show less cognitive development. However, blood quantum and the other background characteristics do not fully explain the tendency for tribal college students to report less growth in cognitive development.

That degree completion would be positively associated with cognitive development is to be expected, given than students who finish their degree programs should show more cognitive growth than students who drop out. This no doubt reflects the effect of "time on task".

Cultural Identity/Knowledge

The regression for this factor accounts for approximately 50 percent of the variance. None of the variables of interest enters the equation. Simple correlations show that attending a tribal or BIA college is associated with greater growth in cultural identity/knowledge. However this relationship is explained by the characteristics BIA

and tribal college students bring with them to the college experience (i.e. higher blood quantum, lower degree aspirations), rather than to the effects of attending such colleges. Similarly, the fact that attending a highly selective institution or a non-Indian institution is associated with less development in cultural identity/knowledge, can also be explained by the types of students who enroll in these colleges (lower blood quantum, higher degree aspirations). Institutional control, in short, does not affect development of cultural identity/knowledge. It was expected that tribal and BIA colleges would produce greater growth in cultural identity/knowledge given the emphasis on Indian culture. However, it may be the case that students who attend non-Indian colleges had more room for growth in this area because they entered college with lower initial levels of Indian identity/knowledge.

Interpersonal Development

The regression for interpersonal development accounts for 30 percent of the variation (R-squared = .30, Multiple R = .55). None of the environmental variables enters the equation. Attending a tribal college has a significant negative association (r = -.15) that looses its predictive power when background characteristics are controlled (Beta after inputs = -.09, $p > .05$). Attending a tribal or BIA institution does not affect interpersonal development.

Racial Tolerance

None of the variables of interest enters the equation for racial tolerance. Simple correlations show that none of these environmental variables has a significant association with this dependent variable. Change in racial tolerance is thus not affected by institutional control. The equation accounts for only 18 percent of the variance in racial

tolerance(R-squared = .18, Multiple R = .42). Input and environmental variables account for less of the change in racial tolerance than they do for other outcome variables.

Going to college to gain an appreciation of ideas is a strong predictor of racial tolerance. This may indicate a pre-existing open-mindedness that these students bring with them to college.

Basic Academic Skills

The equation for self reported change in basic academic skills accounts for 19 percent of the variance (R-squared = .19, Multiple R = .44). The control or selectivity of the college does not effect growth in basic academic skills given that none of the environmental variables enters the equation. Simple correlations reveal no significant associations.

As would be expected, persistence is a positive predictor of growth in basic academic skills just as it is for cognitive development. American Indian students who complete their education are thus more likely to report growth in basic academic skills than are those who drop out. This could have implications for the retention of American Indian students whose academic underpreparedness has been suspected as a cause for their high college drop out rates. As a response, special attention to the development of basic academic skills has been recommended (Machamer, 1998). This finding further backs this recommendation.

Job Related Skills

This regression accounts for 15 percent of the variance (R-squared = .15, Multiple R = .39). None of the five environmental variables enters the equation. While attending a tribal college has a significant negative association with growth in job related skills (r =

-.17), the correlation looses significance when blood quantum enters the equation (Beta after inputs = -.09). In other words, tribal college students report less growth in job skills not because of their experience in colleges, but because they tend to have higher blood quantum. Growth in job related skills also has little to do with the selectivity or control of the college.

Satisfaction with College Experience

To determine the effects of institutional control on satisfaction with the college experience, seven regressions were run on the six satisfaction factors and the single item measuring overall satisfaction with college. (For a description of the method used to determine the talent satisfaction factors, please refer to chapter four.) To control for the effect of independent variables in their temporal order of occurrences, variables were entered in six blocks: background characteristics, reasons for attending college, environmental variables, college activities/talent development, Indian identity/knowledge, and persistence.

Table 5.10 presents the regression coefficients after the background characteristics block entered the equations for all seven factors. The regression coefficients presented are the Betas after the first block (background characteristics) has entered and <u>not</u> final Betas. Simple correlations are given in parenthesis below the Beta. For the control variables section, empty cells indicate that the variable did not enter the equation for that factor. The environmental variables of interest are listed at the bottom of the table. Regression coefficients are listed for all environmental variables even if

they did not enter the equation. A Beta with one asterisk indicates that the Beta is significant after background characteristics are controlled. Two asterisks indicate significance at the final step only. Three asterisks indicate that the Beta is significant at both steps (after input block and at final step).

Curriculum/Instruction

The equation accounts for 37 percent of the variance in satisfaction with curriculum and development. None of the environmental variables enters the equation. Selectivity (r = .17) and BIA college (r = -.14) have significant simple correlations that loose significance after input characteristics are controlled. Thus, the only significant differences in satisfaction with curriculum and instruction among tribal, BIA, and non-Indian colleges are attributable to entering student characteristics rather than differential institutional impact. It might be expected that tribal and BIA students would be less satisfied because these colleges have fewer instructional resources than non-Indian colleges do, a difference which would limit their ability to hire faculty and offer courses. This is not the case.

Faculty/Student Contact

Institutional control and selectivity have no significant effects on the satisfaction of American Indian students with faculty/student contacts. The equation accounts for 29 percent of the variance. Input variables such a s blood quantum, income and age do not affect satisfaction with faculty/student contact. Feeling discrimination from faculty (but not from students) is negatively associated with satisfaction with faculty/student contact. The direction of causation with these two measures is not clear, given that both may measure a common tendency to be satisfied with faculty.

Table 5.10

Predicting Satisfaction with College (Betas after input characteristics controlled)

	Satisfaction with College Factors						
	Curriculum Instruction (n=210) Beta (r)	Faculty/Student Contact (n=238) Beta (r)	Advising/ Counseling (n=170) Beta (r)	Academic Facilities (n=267) Beta (r)	Indian Emphasis (n=233) Beta (r)	Support Services (n=374) Beta (r)	Overall Satisfaction (n=322) Beta (r)
Control Variables							
Blood Quantum					.08 (.34)*	-.17*** (-.12)	
Income					-.20* (-.34)*	-.11*** (-.03)	
Age			.18*** (.24)*		.16* (.24)*		
When to college as prep. for grad. school		.13*** (.14)*		.14*** (.15)*			
When to college to prove I could do it		.14*** (.14)*					.11* (.12)
Change in academic confidence	.35*** (.35)*						.29*** (.29)*
Change in general knowledge			.19* (.23)*		.10 (.00)		
Change in public speaking ability	.30*** (.33)*		.16*** (.14)*				
Change in commitment to own tribe				.15*** (.14)*		.15*** (.10)	.20*** (.21)*
Change in commitment to Indians in general	.24*** (.24)*		.13** (.13)*				
Felt discrimination from students		-.04** (-.06)	-.08 (-.15)*				
Felt discrimination from faculty	-.13*** (-.10)	-.26*** (-.27)*			-.01 (.05)		-.07* (-.06)
Importance of getting the best job				-.13*** (-.13)*			-.01** (-.01)
Feels successful in Non-Indian way of life		.24*** (.24)*	.20*** (.20)*			.16*** (.16)*	
Environmental Variables							
Selectivity	.07 (.17)*	.04 (.04)	.12 (.01)	.20 (.21)*	-.03 (-.26)*	.05 (.07)	.03 (.02)
Tribal college	.00 (-.08)	-.04 (-.04)	.02 (.10)	-.03 (-.05)	.20*** (.39)a	-.12* (-.11)	-.01 (.00)
BIA College	-.09 (-.14)*	.00 (.01)	-.06 (-.03)	-.17*** (-.18)*	.05** (.14)*	.04 (.01)	.00 (.00)
Low selectivity non-Indian	.05 (.09)	.05 (.04)	-.02 (-.05)	.00 (.01)	-.13* (-.25)*	.01 (.02)	.01 (.00)
High selectivity non-Indian	.02 (.11)	.00 (-.01)	.06 (-.04)	.18* (.19)*	-.11 (-.32)*	.06 (.08)	.00 (-.01)
Multiple R (R-squared)	.61(.37)	.54(.29)	.60(.36)	.47(.22)	.68(.46)	.28(.08)	.50(25)

* Beta significant at $p < .05$ level only after inputs ** Beta significant at $p < .05$ level only at final step
*** Beta significant at $p < .05$ level after inputs and at final step [a] correlation coefficient significant at $p < .05$

Advising/Counseling

Institutional control or selectivity does not affect American Indian student satisfaction with advising and counseling services. None of the environmental variables enters this equation, which accounts for 36 percent if the variance. Given the many academic and personal obstacles that American Indians experience in attempting to complete their education, one would expect that advising and counseling would be of particular importance for this population. While it might be expected that American Indian students at non-tribal colleges would be less satisfied with the advising and counseling because it is not culturally specific, this is not the case.

Academic Facilities

The equation for satisfaction with academic facilities (library, lab, and computer facilities) accounts for 22 percent of the variance. Attending a BIA college has a negative effect on satisfaction with academic facilities (Beta after input = -.17). By contrast, attending a highly selective non-Indian college shows a positive relationship with this dependent variable, which remains significant after inputs are controlled. In all likelihood these differential effects reflect the large differences between these two types of institutions in their physical facilities and other resources. Site visits by the author confirm that BIA academic facilities are older and less numerous than what is typically found on highly selective non-Indian college campuses. The chronic underfunding of BIA colleges is a likely reason for their students' lower satisfaction with academic facilities.

Given that education is one of the trust responsibilities that the federal government has to Indian people, BIA colleges are funded by the federal government. BIA colleges are seen as an important ingredient in maintaining that trust responsibility. These empirical results represent a red flag that should cause the federal government to examine its funding priorities of BIA colleges.

Interestingly, attending a tribal college is not associated with lower satisfaction with academic facilities. Site visits to tribal and BIA colleges by the author reveal that tribal institutions have meager resources and academic facilities that resemble those of the BIA institutions. If these observations are valid, why is it that attending a tribal institution does not predict lower satisfaction with facilities? Perhaps tribal college students, who live near their campus and are likely to be familiar with the campus facilities before they arrive, have lower expectations than BIA students do as to what kinds of facilities colleges should provide.

Indian Emphasis

The equation for satisfaction with the level of Emphasis on American Indian Culture accounts for 46 percent of the variance. Three of the five environmental variables enter the equation. Attending either a tribal or a BIA college has a positive effect on student satisfaction with the American Indian emphasis of the college, which remains significant after input variables are controlled. Students who attend either high or low selectivity non-Indian colleges are less likely to be satisfied with this aspect of their college experience. These findings, of course, are not surprising because of the deliberate emphasis on American Indian culture at tribal and BIA colleges that is almost certainly lacking at most non-Indian institutions.

Support Services

The equation for satisfaction for support services accounts for only 8 percent of the variance. After background characteristics are controlled, we find that attending a tribal college has a negative effect on satisfaction with this aspect of the college experience. Once again we may be seeing the effect of limited financial resources. Given their constant struggle simply to be able to afford hiring faculty and paying electric bills, tribal colleges simply have fewer financial resources to provide the facilities and staff for such services.

The fact that students with higher blood quantum and lower incomes tend to be less satisfied with support services suggests that the need for support services among such students may be especially acute. The effects of these variables are suppressed by the other variables in the equation. The negative effects of blood quantum and income are mediated by growth in a student's commitment to their tribe and feeling successful in a non-Indian way of life.

Overall Satisfaction

This final regression accounts for 25 percent of the variance in overall satisfaction with the college experience. Results show that the type of institution in which an American Indian student enrolls does not affect their overall satisfaction with the college experience. As might be expected, feeling discrimination from either students or faculty is negatively related to overall satisfaction. By contrast, students who report greater growth in their academic confidence are more likely to be satisfied with college. Once again, the direction of causation is unclear: feeling confidence in one's academic abilities could enhance overall satisfaction with the college experience but it may also be that

being satisfied leads students to believe that they have more growth in their academic confidence.

Students who report more growth in their commitment to help their tribe are also more likely to be satisfied with their overall college experience. Perhaps the strengthened commitment to help their tribe that some students gain while in college gives them a greater sense of purpose and direction that enhances their overall satisfaction with college. What is especially interesting is that the type of college shows no relationship to overall satisfaction with college. Apparently, where they attend college is a less important factor in the American Indian student's level of satisfaction with the college experience than is developing a sense of purpose and direction that is linked to their tribal community.

Discrimination

While table 5. 11 suggests that tribal college students are less likely to experience racial discrimination from other students than either BIA or non-Indian college students, the differences prove to be non-significant statistically (see table 5.13).

Table 5.11
Felt Discrimination Sometimes/Often by Institutional Control

Felt Discrimination From:	Tribal College % (n)	BIA College % (n)	Non-Tribal College % (n)	Total % (n)
Students	13 (150)	16 (70)	17 (219)	15 (439)
Faculty	17 (150)	12 (74)	9 (220)	12 (444)

Since phenotypical features play an important role in racial discrimination, and blood quantum is a determinate of phenotype, a crosstab of discrimination by blood quantum was conducted to reveal any relationship between these two variables (see table 5.12). Increased reports of discrimination as blood quantum increases would be expected. This is not the case. Although the trends are in the expected direction - full blooded students are more than 2.5 times as likely to report discrimination from peers than are students with 1/16 blood quantum or less (19% compared to 7%) – these differences are not statistically significant (see table 5.13). Since all other blood quantum categories show few differences in the rates of feeling that they have been discriminated against by other students, the relationship between blood quantum and feeling discrimination from other students appears to be nonlinear.

Table 5.12
Felt Discrimination Sometimes/Often by Blood Quantum

Felt Discrimination From:	1/16 % (n)	1/8 % (n)	1/4 % (n)	1/2 % (n)	3/4 % (n)	4/4 % (n)	Total % (n)
Students	7 (55)	16 (57)	16 (50)	14 (67)	14 (54)	19 (135)	15 (418)
Faculty	2 (57)	9 (54)	14 (50)	14 (70)	13 (54)	16 (134)	12 (419)

* Retention is based upon entering degree aspirations

Table 5.11 suggests that tribal college students report feeling discrimination from faculty more often than do students at non-Indian colleges. As it turns out, the only college variable with a significant correlation is low selectivity non-Indian college, where

American Indian students are less likely to report discrimination from faculty (see table 5.14). This correlation, however, disappears when blood quantum is controlled in the first block (see below). Table 5.12 shows an increase in the percentage of students who felt discrimination from faculty as blood quantum increases. Students with higher blood quantum are significantly more likely to report feeling discrimination from faculty than are students with lower blood quantum ($r = .16$; see table 5.14).

To ascertain the independent contribution of institutional control to experiencing racial discrimination, two regressions were run 1) discrimination from peers and 2) discrimination from faculty. To control for differential input characteristics, independent variables were entered in six blocks: background characteristics, reason for attending college, college environments, college activities/ talent development outcomes/satisfaction outcomes, cultural identity/knowledge, and persistence.

Discrimination from Other Students

Table 5.13 displays the standardized coefficients for the regression where the dependent variable is feeling discrimination due to race from other students. Seventeen variables enter the equation, accounting for roughly 30 percent of the variation (R-squared = .29, Multiple R = .54). As already indicated, none of the five environmental variables enters the equation, suggesting that neither selectivity nor institutional control affects a student's likelihood of experiencing racial discrimination from peers.

Table 5.13
Predicting Feeling Discrimination from Other Students (n=352)

Variables in the Equation	Multiple R	r	Beta after BC	Beta after RAC	Beta after ATDS	Final Beta
Background Characteristics (BC)						
1. Gender	.12	-.12*	-.12*	-.11*	-.09	-.07
2. Attended tribal high school	.20	.16*	.14*	.14*	.09	.09
3. Raised by biological mother/father	.23	.13*	.13*	.14*	.08	.10*
4. Raised on reservation	.26	.11*	.12*	.07	.08	.01
Reasons for Attending College (RAC)						
5. Mentor encouraged me to go	.30	.18*	.16*	.14*	.14*	.13*
6. To prove to other I could do it	.32	.15*	.13*	.11*	.06	.05
Activities, Talent Development, Satisfaction (ATDS)						
7. Change in knowledge of own tribe	.39	.26**	.24**	.22**	.17*	.12*
8. Satisfaction interactions with students	.41	-.15*	-.15*	-.14*	-.15*	-.15*
9. Time spent in classes	.43	-.17**	.16*	.16*	.15*	.15*
10. Satisfaction with child care	.45	.10	.10	.11*	.11*	.12*
11. Opportunity to discuss coursework with professors	.47	-.13*	-.09	-.08	-.14*	-.13*
12. opportunity to attend films and concerts	.48	.16*	.12*	.12*	.18*	.18**
13. Satisfaction with campus health facilities	.49	-.05	-.08	-.09	-.13*	-.12*
14. Change in competitiveness	.50	.22**	.17**	.15*	.18*	.16*
15. change in ability to work cooperatively	.51	.09	.07	.06	-.15*	-.15*
16. Change in academic confidence	.52	.14*	.11*	.14*	.12*	.13*
Identity Variables						
17. Zimmerman identity scale	.54	.27**	.28**	.26**	.18*	.18*
R-squared			.07	.10	.27	.29
Selected Variables not in the Equation						
Blood Quantum		.56	.06	.02	.03	-.04
Selectivity		.04	.07	.08	.04	.06
Tribal college		-.06	-.11	-.09	-.02	-.06
BIA College		.05	.02	.01	-.02	-.03
Low selectivity Non-Indian		-.02	.00	.00	-.02	.00
High selectivity Non-Indian		.04	.06	.07	.05	.08

* Statistically significant at $p < .05$
** Statistically significant at $p < .001$

When examining the effects of background characteristics we find that blood quantum, while predictive of many other outcomes, does not enter the equation. The Zimmerman Identity Scale (which has a high correlation with blood quantum, r = .56)

does enter the equation and remains significant even when all other variables are controlled (final Beta = .18). This result suggests that students who have a strong sense of American Indian identity and participate in Indian activities are more likely to report feeling discrimination from their fellow students. Do American Indian students who have a strong sense of American Indian identity actually experience more discrimination than their counterparts with a less developed sense of American Indian identity? Or is it that the student with a stronger Indian identity is simply more prone to attribute unfavorable peer interactions to racism than is the student with less of an American Indian identity?

Discrimination from Faculty

Table 5.14 shows the standardized regression coefficients for all ten variables that entered the equation at selected blocks. This equation accounts for 30 percent of the variation (R-squared = .30, Multiple R = .52). None of the environmental variables of interest enters the equation. As already noted, only one college type, low selectivity non-Indian colleges, has a significant simple correlation (r = -.15), which becomes non-significant when blood quantum enters (Beta = .02).

Of the background variables that enter, only attending a tribal high school remains significant at the final step (final Beta = .21). Students who attended a tribal high school are more likely to report experiencing racial discrimination from the faculty at their college. In fact, all variables that predict discrimination from faculty are associated with closeness to tribal culture. Knowledge of one's own tribal culture (r = .25, final Beta = .17), attending American Indian meetings (r = .18, final Beta = .11), and high scores on

Table 5.14
Predicting Feeling Discrimination from Faculty (n=345)

Variables in the Equation	Multiple R	r	Beta after BC	Beta after RAC	Beta after ATDS	Final Beta
Background Characteristics (BC)						
1. Blood Quantum	.16	.16*	.14*	.12*	.06	-.01
2. Attended tribal high school	.28	.25**	.26**	.25**	.21**	.21**
3. Attended BIA day school	.31	.13*	.12*	.11*	.07	.08
4. Raised by biological mother/father	.33	.08	.11*	.11*	.07	.08
Reasons for Attending College (RAC)						
5. Mentor encouraged me to go	.35	.15*	.11*	.11*	.10*	.08
Activities, Talent Development, Satisfaction (ATDS)						
6. Satisfaction interaction with other students	.43	-.28**	-.24**	-.25**	-.23**	-.21**
7. Knowledge of own tribal culture	.47	.25**	.21**	.20**	.21**	.17**
8. Attended American Indian meetings	.49	.18*	.15*	.13*	.14**	.11*
9. Satisfaction with academic counseling	.51	-.16*	-.15*	-.16*	-.13*	-.13*
Identity Variables						
10. Zimmerman identity scale	.52	.30**	.30**	.29**	.17*	.17*
R-squared			.11	.12	.26	.28
Selected Variables not in the Equation						
Selectivity		-.07	.01	.00	.00	.01
Tribal college		.04	-.01	-.01	.00	-.02
BIA College		.02	-.02	-.02	-.05	-.05
Low selectivity Non-Indian		-.15*	.02	.02	.04	.05
High selectivity Non-Indian		-.05	.03	.01	.01	.02

* Statistically significant at $p < .05$
** Statistically significant at $p < .001$

the Zimmerman identity scale ($r = .30$, final Beta = .17) are all predictors of feeling discrimination from faculty. As was the case with discrimination from peers, it is not clear if these students who have more contact, knowledge, and awareness of Indian heritage 1) are more aware of discrimination or 2) are more likely to attribute negative interactions with faculty to racism.

Cultural Identity

Identity is assessed in a number of different ways. Five different variables measuring affinity for American Indian and non-Indian cultures are used in descriptive and multivariate analysis. Two single-item questions measuring American Indian identity ask students to rate themselves on how much they follow an American Indian way of life, and how successful they felt they are in an American Indian way of life. Two parallel items measuring non-Indian identity ask students to report how much they follow a non-Indian way and how successful they feel they are in leading a non-Indian way if life. A fifth identity measure, the Zimmerman identity scale, is a composite variable comprising various beliefs and activities associated with an American Indian identity. The results of crosstabulations between these identity variables and institutional control are presented in Table 5.15.

American Indian identity -- living an American Indian way of life, being successful in an American Indian way if life, and the Zimmerman identity scale -- is strongest among tribal and BIA college students, who are more than twice as likely to report living and being a success in an American Indian way of life than are their counterparts at non-Indian colleges and 2.5 times as likely to have a high score of the Zimmerman identity scale. Given the influence that blood quantum has had on other variables of interest, crosstabulations for identity were also run by blood quantum (See Table 5.16). The three variables measuring American Indian identity increase as blood quantum increases. Only twelve percent of students with 1/16 blood quantum reported living an American Indian way of life, compared to 77 percent of full-blooded students.

Table 5.15
Cultural Identity by Institutional Control

Some/A-lot	Tribal College % (n)	BIA College % (n)	Non-Tribal College % (n)	Total % (n)
Live an American – Indian Way of Life	77 (167)	71 (83)	29 (246)	53 (496)
Being a Success in an American – Indian Way of Life	66 (167)	63 (83)	32 (246)	48 (496)
Live a Non-Indian Way of Life	71 (167)	80 (83)	85 (246)	80 (496)
Being a Success in a Non-Indian Way of Life	62 (167)	66 (83)	78 (246)	70 (496)
Zimmerman Identity Scale (High)	52 (167)	49 (83)	19 (246)	35 (496)

Eighteen percent of students with 1/16 blood quantum report being successful in an American Indian way of life, compared to 68 percent of the students who are full blooded. Similarly, only two percent of the students with the lowest blood quantum scored high on the Zimmerman identity scale, compared to 58 percent of those with the highest blood quantum. In short, blood quantum seems to be as strongly linked with American Indian identity as it is with attending a tribal or BIA college. However, we also know that tribal and BIA colleges enroll students with high blood quanta. The question, then, is: will the tendency for students who attend tribal and BIA colleges to have stronger identities as American Indians remain after the effects of blood quantum are controlled?

Table 5.16
Cultural Identity by Blood Quantum

Some/A-lot	1/16 % (n)	1/8 % (n)	1/4 % (n)	1/2 % (n)	3/4 % (n)	4/4 % (n)	Total % (n)
Live an American-Indian Way if Life	12 (60)	7 (65)	42 (55)	58 (77)	70 (57)	77 (150)	52 (464)
Success in an American-Indian way of Life	18 (60)	12 (65)	44 (55)	60 (77)	58 (57)	68 (150)	48 (464)
Live a Non-Indian Way of Life	88 (60)	79 (65)	89 (55)	82 (77)	72 (57)	80 (150)	81 (464)
Success in a Non-Indian Way of Life	80 (60)	74 (65)	80 (55)	78 (77)	56 (57)	69 (150)	72 (464)
Zimmerman Identity Scale (High)	2 (60)	9 (65)	20 (55)	43 (77)	58 (57)	53 (150)	35 (464)

The association of college type with variables measuring identity with non-Indian cultures is much weaker. Tribal and BIA students are only slightly less likely to report living and being successful in a non-Indian way of life, with the differences in the non-Indian identity scores by institutional control (5 to 16 percentage points) being much smaller than are the comparable differences in American Indian identity scores (30 to 48 percentage points). The same is true for differences in non-Indian identity and blood quantum. Although 3/4 and full blood students are slightly less likely to report living and being successful in a non-Indian way of life than 1/8 and 1/16 students, the association is much weaker than it is for the variables measuring American Indian identity. Thus, there is only an 8 percent difference between the lowest and highest blood quantum students in living a non-Indian way of life and an 11 percent difference in being successful in a non-Indian way of life. By contrast, the smallest difference between the students with 1/16 and full blood quantum on Indian identity variables is thirty percentage points. Clearly,

non-Indian identity variables are not as closely linked with institutional control and blood quantum as are variables measuring American Indian identity.

To ascertain the independent contribution of institutional control to identity, regressions were run on all five identity variables. Independent variables were entered in five temporal blocks: background characteristics, reasons for attending college, college environments, college activities/ talent development outcomes/satisfaction outcomes, and persistence.

Zimmerman Identity Scale

The twenty-one variables that enter the equation account for about 70 percent of the variation in the Zimmerman identity scale (R -squared = .70, Multiple R = .83). Table 5.17 shows the standardized regression coefficients for selected blocks in the regression. (See Appendix E for step-by-step standardized regression coefficients) None of the environmental variables of interest enters the equation. All five variables have significant simple correlations that lose significance after background characteristics enter the regression. Thus, even though students who attend tribal and BIA colleges are substantially more likely to have high Zimmerman scores than are students attending non-Indian colleges, these differences are entirely attributable to differences in blood quantum , tribal membership, and fluency in their native language. After these variables enter, the coefficients for attending a tribal or BIA college are no longer significant. Persistence, which has a significant negative association with identity (r = -.08) becomes a positive predictor after background characteristics are controlled. So while students who drop out have slightly higher identity scores, once all background characteristics have been held equal, it is the persisters who actually have slightly higher identity scores.

In other words, once the effects of blood quantum and other characteristics that have negative effects on persistence are controlled, successful completion of a degree appears to strengthen American Indian identity.

Table 5.17
Predicting American Indian Identity[a] (n=374)

Variables in the Equation	Multiple R	r	Beta after BC	Beta after RAC	Beta after ATDS	Final Beta
Background Characteristics (BC)						
1. Blood Quantum	.52	.56**	.36**	.30**	.16**	.17**
2. Age	.58	.26**	.18*	.17*	.04	.04
3. Tribal member	.60	.51**	.20**	.18*	.04	.04
4. Raised by adoptive parents	.61	-.12*	-.10*	-.10*	-.04	-.04
5. Speak Native language	.61	.36**	.13*	.11*	.00	.00
6. Mother's education level	.62	-.16*	.12*	.13*	.08*	.09*
Reasons for Attending College (RAC)						
7. To prove to other I could do it	.64	.31**	.14*	.13*	.08*	.07*
8. To transfer to four-year college	.64	.42**	.13*	.12*	.02	.03
Activities, Talent Development, Satisfaction (ATDS)						
9. Participated in Indian activities	.74	.62**	.43**	.41**	.15*	.15*
10. Change in identity as Indian person	.77	.58**	.38**	.36**	.16*	.16*
11. Importance of maintaining customs	.79	.65**	.44	.42	.23**	.22**
12. Participated in Indian religious activities	.80	.62**	.41**	.40**	.15*	.16**
13. Change in job related skills	.81	-.14*	-.03	-.04	-.11*	-.11*
14. Satisfaction with campus health facilities	.81	-.12*	-.09*	-.09*	-.10*	-.09*
15. Change in commitment to Indians	.81	.53**	.36**	.35**	.12*	.12*
16. Satisfied with faculty offering Indian perspective	.82	.18*	-.01	-.02	-.08*	-.09*
17. Satisfied with lab facilities	.82	-.02	.03	.03	.08*	.08*
18. Time spent working for pay	.82	-.12*	-.05	-.05	-.07*	-.06*
19. Felt discrimination from students	.83	.26**	.21**	.19**	.07*	.06*
20. Importance of graduating from college	.83	.00	-.03	-.05	-.07*	-.07*
Persistence						
21. Earned intended degree or higher	.83	.-.08*	.05	.06	.06*	.06*
R-square			.39	.42	.69	.70
Selected Variables not in the Equation						
Selectivity		-.21**	.06	.08	.01	.02
Tribal college		.34**	.07	.06	.04	.03
BIA College		.16*	.01	.00	-.02	-.02
Low selectivity Non-Indian		-.23**	-.07	-.05	.00	.00
High selectivity Non-Indian		-.29**	.00	.02	-.02	.00

[a] as measured by the Zimmerman Identity scale (range 0 to 39)
* Statistically significant at $p < .05$ ** Statistically significant at $p < .001$

American Indian Identity

Table 5.18 shows the coefficients for the two regressions measuring American Indian identity: 1) living an American Indian way if life, 2) being successful in a non-Indian way of life. The first regression accounts for 63 percent of the variance in living an Indian way of life and the second accounts for 42 percent of the variance in being a success in an American Indian way of life.

Although American Indian identity is much stronger in tribal and BIA colleges than non-Indian colleges, only one of the five environmental variables enters the equation for living an American Indian way of life: low selectivity non-Indian college, which is negatively associated with living an American Indian way of life. Most of this relationship with the dependent variable, however, is attributable to entering student characteristics (i.e., the correlation goes from -.26 to -.09 when background characteristics are controlled). Since all of the other environmental variables lose significance when background variables are controlled it appears that a student's background characteristics have much more influence whether that student lives an American Indian way of life than does the type of institution attended. Thus, students who have higher blood quanta, were raised on a reservation, are members of their tribe, and speak their Native language are more likely to live an American Indian way of life, regardless of the type of college they attend. The same is true for feeling successful in an American Indian way of life. In this case, only selectivity enters the equation but does not remain significant at the final step (final Beta = .01). The coefficients for the other four variables - tribal, BIA, low selectivity non-Indian, and high selectivity non-Indian colleges – all lose significance after background characteristics are controlled.

Table 5.18

Predicting American Indian Identity in American Indian Students (n=374)

	Regression for					
	Lives an Indian way of Life			Successful in Indian way of life		
Variables	r	Beta after BC	Final Beta	r	Beat after BC	Final Beta
Background Characteristics (BC)						
Blood quantum	.55*	.11	.01	.40*	.17*	.09
Age	.29*	.15*	.03	.22*	.11*	.04
Raised on reservation	.50*	.21**	.12*	.37*	.18*	.08
Member of tribe	.53*	.25**	.14*	.37*	.13*	.10
Speaks Native Language at home	.45*	.20*	.15*			
Reasons Attended College (RAT)						
Parents wanted me to go				.14*	.14*	.12*
Update job skills				.26*	.12*	.15**
Earn a degree	-.05	-.08	-.04			
Transfer to a four-year college	.42*	.10	.05			
Become more cultured person	.00	.07	.01			
Environmental Variables (E)						
Selectivity	-.27*	.01	.00	-.11*	.11*	.09
Low selectivity non-Indian	-.26*	-.09*	-.02	-.18*	-.05	.01
Activities, Talent Development, Satisfaction (ATDS)						
Participated in Indian activities	.56*	.31*	.12*	.48*	.34**	.21**
Participated Indian religious activities	.58*	.32*	.12*	.47*	.31**	-.13*
Socialized with different races	-.12*	-.01	-.07*			
Importance of maintaining customs	.64*	.38**	.25**			
College GPA				.02	.10*	.09*
Change in commitment to own tribe				.39*	.25**	.14*
Change in religious beliefs	.03	-.03	-.11*			
Change in commitment to Indians	.44*	.25**	.10*			
Change in interpersonal skills	.03	.10*	.08*			
Time spent on hobbies				.00	-.07	-.12*
Satisfaction career counseling				.17*	.13*	.11*
Satisfaction instruction				-.03	.00	-.12*
Satisfaction social science courses				.03	.12*	.11*
Relevancy of coursework to life	.11*	.08*	.08*			
Satisfaction with student housing	.00	.07*	.07*			
Importance of attending college	-.09*	-.04	-.08*			
Multiple R		.67	.79		.46	.65
R -squared		.44	.63		.21	.42
Environmental Variables not in Equation						
Tribal college	.38*	.07	.00	.24*	-.02	.01
BIA college	.20*	.06	.03	.13*	.04	.01
High selectivity non-Indian	-.33*	-.02	-.04	-.19*	.03	-.12

* significant @ $p < .05$
** significant @ $p < .001$

In short, the greater tendency for tribal and BIA students to report feeling successful in an American Indian way of life can be explained almost entirely by the fact that these colleges enroll more students with higher blood quanta, who are tribal members, and were raised in a rural or reservation setting.

Non-Indian Identity

Two regressions were run using living a non-Indian way of life and being a success in a non-Indian way if life as dependent variables. These two regressions account for 19 percent and 24 percent of the variance, respectively. None of the environmental variables enters either equation. Tribal colleges ($r = -.21$) and high selectivity non-Indians colleges ($r = .16$) both have significant correlations with living a non-Indian way of life, but these correlations lose their significance when background characteristics are controlled. Persistence, which was a positive predictor of American Indian identity as measured by the Zimmerman identity scale, is a negative predictor of following a non-Indian way of life. Why these variables should be negatively associated with living a non-Indian way is not clear.

Feeling successful in a non-Indian way of life is positively associated with attending a selective institution ($r = .15$), but the correlation becomes non-significant when background characteristics are controlled. Similarly, the significant negative relationship between attending a tribal college and being successful in a non-Indian way of life disappears when background characteristics are held constant. In other words, the type of college attended by American Indian students does not affect their perception of success in a non-Indian way of life.

Table 5.19
Predicting Non-Indian Identity in American Indian Students (n=374)

	Regression for					
	Lives non-Indian way of Life			Successful in non-Indian way of life		
Variables	r	Beta after BC	Final Beta	r	Beat after BC	Final Beta
Background Characteristics (BC)						
Blood quantum	-.17*	-.13*	.01	-.12	.01	.09
Age	-.19*	-.17*	-.11			
Attended public high school	.12*	.11*	.10			
Income				.18*	.16*	.09
Attended BIA day school				-.18*	-.18**	-.16**
Attended BIA boarding school				-.15*	-.11*	-.10*
Reasons Attended College (RAT)						
Earn a degree	-.11*	-.11*	-.13*			
Prove to other I could				-.15*	-.11*	-.10*
Make more money				.04	.08	.07
Activities, Talent Development, Satisfaction (ATDS)						
Change in identity as Indian	-.21*	-.14*	-.13*			
Importance of seeing medicine man	-.20*	-.14*	-.12*			
Felt overwhelmed	.19*	.14*	.12*			
Satisfied with humanities courses	.18*	.15*	.12*			
Satisfied with instruction	.18*	.17**	.19**			
Opportunity to discuss coursework with professors outside of class	.02	.01	-.10			
Change in writing skills				.20*	.18*	.10*
Socialized with different races				.21*	.22**	.13*
Importance of being success at job				.17*	.158	.12*
Satisfied social science courses				.24*	.21*	.11*
Satisfied courses in major				.28*	.24**	.10*
Found faculty mentor				.23*	.22**	.13*
Persistence (P)						
Earned intended desired degree	-.06	-.10*	-.11*			
Multiple R		.26	.43		.28	.49
R -squared		.07	.19		.07	.24
Environmental Variables						
Selectivity	.08	.00	-.06	.15*	.08	.04
Tribal college	-.21*	-.11	-.10	-.15*	-.06	-.04
BIA college	-.03	-.01	.03	-.05	-.01	.04
Low selectivity non-Indian	.10	.03	.03	.11	.05	.00
High selectivity non-Indian	.16*	.07	.01	.10	.01	.01

* significant @ $p < .05$
** significant @ $p < .001$

Of interest in this regression are the negative effects of attending both BIA day and boarding high schools, which persist even after all other variables are controlled. (final Betas are significant at -.16 and -.10). (Attending a tribal high school did not enter the equation.) As was found with BA degree persistence, attending a BIA-run school has a negative effect on the outcome variable, whereas attending a tribal school does not. Again, the emphasis placed on self-determination in the tribal (as opposed to BIA) school environment may be an important ingredient in student outcome variables. Feelings of self-determination, empowerment and a stronger sense of themselves as Indian people may allow American Indian students to better navigate in the non-Indian world.

Summary

This chapter has presented and discussed the results of data collection efforts and descriptive and multivariate analyses. The survey yielded a sample of 496 American Indian respondents (167 tribal, 83 BIA, 246 non-Indian college students) which represents a nine percent response rate.

ANOVAs show that, although tribal colleges differ from each other on background variables that measure culturally linked characteristics, they are very similar on variables that are traditional predictors of persistence in higher education. Further, students who enroll at tribal or BIA colleges, compared to those who attend non-Indian colleges, tend to score lower on those variables that predict retention: income, high school GPA, degree aspirations, and father's education level. These differences in entering characteristics, in turn, explain many of the differences in outcomes between Indian and non-Indian colleges.

Persistence

Although American Indian students who attended non-Indian colleges are much more likely to achieve their educational goals than are American Indian students who attended tribal or BIA institutions, most of these differences are attributed to differences in the students when they first enroll. Once input variables are controlled, attending a tribal college does not inhibit bachelor's degree completion. The lower AA/Vocational degree attainment rates of tribal colleges are attributable to their entering students characteristics and ,to a lesser extent, their low selectivity. Attending a BIA college was found to not inhibit AA/Vocational degree completion, but it does reduce the student's chance of completing a BA degree, even when background characteristics and selectivity are held constant.

Talent Development

Environmental variables explain little of the variation in growth in specific talents. With the exception of the weak negative effect that attending a tribal college has on cognitive development, institutional control does not affect the talent development of American Indian students.

Satisfaction with the College Experience

Institutional control does not affect an American Indian student's satisfaction with the college experience, with the following exceptions: both tribal and BIA colleges produce greater student satisfaction with the American Indian emphasis than non-Indian colleges do, and attending a tribal college lowers student satisfaction with campus support services.

Discrimination

Regression analyses reveal no significant relationship between institutional control and feeling discrimination from peers or faculty. Background characteristics -- in particular -- blood quantum, being raised on a reservation, and attending a tribal high school play a significant role in whether the American Indian student experiences or perceives racial discrimination.

Cultural knowledge/identity

Institutional control does not play a significant role in predicting American Indian identity after input characteristics are controlled. The stronger identities of both tribal and BIA students can be explained by their higher blood quanta, tribal membership, reservation upbringing, and fluency in their Native language. As for non-Indian identity, institutional control plays no role in living or being a success in a non-Indian way of life. Attending a BIA secondary school, however, is associated with feeling less successful in a non-Indian way of life.

Chapter Six

Summary and Conclusion

The purpose of this study has been to gather and analyze original empirical data on American Indian students at tribal and non-tribal colleges to gain an understanding of the effects of institutional control on American Indian student development. This chapter first reviews the purpose and research methods. Then the hypotheses presented in Chapter Four are revisited and discussed in light of the findings reported in Chapter five. Implications for theory, policy, and practice are discussed next, followed by a discussion of the methodology piloted in this study and the feasibility of establishing an the Institute for the Study of American Indian Education. Finally, limitations of the study and recommendations for future research are presented.

Overview of the Study

The educational attainment of American Indians has not been effective as measured by a number of traditional indices. For various reasons, American Indian educational attainment lags behind that of any other racial/ethnic group. In addition, the fact that the majority of American Indians who manage to pursue higher education enroll in non-selective, two-year institutions may have negative implications for their future educational and status attainment, since attending such institutions tends to reduce the student's chance of earning a bachelor's or higher degree (Astin, 1975, 1977, 1982, 1992).

Furthermore, given the increased importance of tribal colleges to Indian education and the paucity of quality studies on these institutions, there is an urgent need for research on all aspects of tribal colleges.

American Indians have the lowest levels of educational attainment of all major racial/ethnic groups in the United States (Astin, 1982; Bowker, 1993). American Indians are underrepresented at all levels of education and become increasingly underrepresented as the educational level gets higher. Even those American Indians who manage to enroll at four-year colleges and universities have six-year degree attainment rates that are lower than those of all racial/ethnic groups (Astin, Tsui and Avalos, 1996). Poor study habits and underpreparedness have been given as reasons for the higher levels of attrition among American Indians (Astin 1982, McNamara 1984), but these factors do not fully explain American Indians' low rates of degree completion (Astin, Tsui, and Avalos, 1996). Other studies explain student departure as a result of a poor fit between student and institution. If students feel they do not fit academically, socially, or culturally, they may leave because the school is not meeting their needs (Hossler, Bean, and Associates 1990). This may be particularly true of American Indians enrolled at certain non-Indian institutions. Tribal colleges hope to alleviate these problems for American Indian students by offering remedial and adult education in a culturally familiar environment. It is believed that at a tribal college, students can develop the academic or vocational skills they need in an environment that encourages cultural growth instead of creating cultural tension or disharmony.

Observers of tribal colleges report that these institutions are serving students well. However, very few studies have been done to confirm this anecdotal evidence. As a

result, few aspects of these institutions are well understood, especially the role they play in student development. Tribal colleges are simply understudied, and the few studies that have been done often focus on only one institution with small samples that limit the analysis to descriptive statistics. No study has utilized comparison samples of American Indians at non-Indian institutions. In light of this paucity of empirical research, the objective of this dissertation was to initiate a multi-institutional exploratory analysis of tribal college students, and a simultaneous parallel study of American Indian students enrolled at non-Indian institutions to examine the comparative effects of Indian and non-Indian institutions on American Indian student development.

One of the basic questions explored in this study is whether the handicap imposed by beginning one's higher education at a non-selective two-year institution is alleviated by attending a tribal college. Are tribal college students at an educational disadvantage or does the better fit provided by tribal colleges compensate for this liability? How do the outcomes of American Indian students at non-Indian institutions compare to those of tribal college students? How much diversity is there among tribal institutions and what is the nature of that diversity? Do these institutions comprise a system of higher education or does the heterogeneity of tribal institutions preclude talk of a tribal college "system."

To examine these questions, alumni of tribal, BIA, and non-Indian institutions were surveyed. A cross-sectional sample of American Indians who entered college in 1993 was sent a survey in the winter of 1999 that measured the following student development outcomes: persistence, talent development, satisfaction with college, experience of racial discrimination, and cultural knowledge/identity. Students were also asked to report, retrospectively, input variables that have been shown to affect the

outcomes of interest. A focus group and site visits to five tribal and BIA campuses were also conducted to lend more depth to the quantitative findings.

Another purpose of this study was to test the feasibility of establishing an Institute of American Indian Higher education. Meeting and working with staff members and administrators of multiple tribal colleges as well as with members of the American Indian Higher Education Consortium (AIHEC) made it possible to assess some of the issues related to creating such an institute.

A Summary of Findings

Major findings of the study will be discussed in light of the hypotheses originally stated in Chapter Three. Additional findings not addressed by those hypotheses are also discussed.

Hypothesis 1: Tribal college students have lower rates of retention and degree completion than do students at non-Indian institutions. After entering differences are controlled, there will be no significant differences in rates of degree completion between students at tribal colleges and American Indian students attending non-Indian institutions.

The hypothesis is partially supported. Although tribal and BIA colleges have much lower unadjusted rates of both AA/Vocational and bachelor's degree completion than non-Indian institutions do, most of these differences can be attributed to differences in their student input characteristics. When it comes to AA/Vocational degree completion, the lower rates for tribal colleges are also attributable in part to their low selectivity. The rates for BIA colleges however, are entirely attributable to their entering

student characteristics. Thus, with the exception of the low selectivity of these colleges, there is nothing inherent about tribal or BIA colleges that inhibits two-year degree completion. The hypothesis can be generally accepted as it applies to AA/Vocational education.

The hypothesis is only partially supported when considering bachelor's degree completion. Once input variables and selectivity are controlled, attending a tribal college has no significant effect on bachelor's degree completion. However, attending a BIA college does have a negative effect on bachelor's completion that is not fully explained by student-input characteristics or even by the low selectivity of BIA institutions. These results suggest that there is something about the environment of BIA colleges, beyond their status as non-selective institutions, that inhibits bachelor's degree completion. One possible explanation is the peer or cohort effect of institutions with low degree completion rates. If the majority of a student's friends on campus are not achieving their educational goals, that "norm" of drop/stop out can make it less likely that any individual student will complete the bachelor's degree (Astin, 1993). The non-completion rate at BIA colleges is indeed high – 73 percent – but it is also high at tribal colleges – 63 percent. The fact that tribal institutions, which should also show the same negative peer effect, do not impede bachelor's degree completion suggests either that tribal colleges have some mitigating quality not found in BIA colleges, or that something other than, or in addition to, the low completion rate must be operating at BIA institutions.

What could account for the apparently different persistence patterns of these seemingly similar college environments? One possible explanation is the difference between tribal and federal administration. The philosophy of self-determination, upon

which tribal institutions are founded, may not be a guiding principal at a campus that is administered by the federal government. This emphasis on self-determination may instill students (or attract students) with a sense of autonomy, empowerment, and belonging that is an important element in persistence, an ingredient missing from the BIA campus. Another possibility, of course, is that we are observing a "Type II" error with the tribal colleges, given that their non-significant partial Beta after input and environmental variables have been controlled is -.09, compared to a significant Beta of -.14 for BIA colleges. Clearly, these ambiguities need to be resolved in future research.

Hypothesis 2: Talent development or value-added measures for tribal college students will be comparable to those of the students at both low and high selectivity non-Indian institutions. Tribal college students will report greater growth in cultural knowledge/identity.

The first part of the hypothesis is conditionally accepted. Institutional control does not affect talent development in most areas, with the exception of cognitive development, where tribal college students report less growth. Once the fact that tribal college students report going to college to update their job skills is controlled, this negative relationship is eliminated. Perhaps curriculum and activities that encourage cognitive development (general knowledge, problem solving skills, knowledge of particular field, and critical thinking skills) are not emphasized at the tribal college. In other words, the extra emphasis placed on vocational training at these colleges may result in less emphasis being given to cognitive development.

In all other areas of talent development (interpersonal skills, racial tolerance, basic academic skills, and job skills), institutional control does not show any differential effects on growth in talent development once background characteristics are controlled.

The second part of the hypothesis is not supported: growth in cultural knowledge/identity is not differentially affected by college type. While non-Indian college students have lower unadjusted growth in cultural knowledge/identity, most of this association can be explained by the fact that these students tend to have lower blood quanta than do students entering tribal and BIA colleges.

Hypothesis 3: Tribal college students will report more satisfaction with their undergraduate experience than students who attend non-Indian colleges. The exception will be satisfaction with facilities, where tribal college students will have lower levels of satisfaction than their non-Indian college counterparts.

The data support only part of this hypothesis. Institutional control does not affect satisfaction with curriculum/instruction, faculty/student contact, advising/counseling, or overall satisfaction, as hypothesized. Tribal college and BIA students are, however, more than students at non-Indian institutions are satisfied with the American Indian emphasis at their college. This part of the hypothesis can be accepted. Students recognize and appreciate the deliberate emphasis on American Indian culture at tribal and BIA colleges. However, contrary to the hypothesis, tribal college students report less satisfaction with support services (job placement, campus health services, childcare facilities, and opportunity for applied learning).

While tribal college students are no less satisfied with academic facilities than are students who attend non-Indian colleges, BIA students, as hypothesized, report significantly less satisfaction with this aspect of their college. It is not surprising that BIA students are less satisfied with facilities than are students at non-Indian colleges given that BIA colleges have far fewer financial resources to invest in facilities. However, in light of the fact that their resource base is similar to that of the BIA institutions, it is unclear why attending tribal colleges does not also have a negative effect on satisfaction with academic facilities.

Hypothesis 4: Tribal college students will report experiencing less discrimination from fellow students and faculty than will students at non-tribal colleges.

This hypothesis is not supported by either crosstabulation or regression results. Contrary to expectation, American Indian students who attend non-Indian colleges are no more likely to experience or report racial discrimination from students or faculty than are tribal or BIA students. Institutional control, in short, does not affect a student's likelihood of experiencing discrimination.

Having a strong American Indian identity, as measured by the Zimmerman identity scale, is a predictor of feeling discrimination from both students and faculty. It is interesting that identity is a more important predictor of feeling discrimination than blood quantum is. It may be that the student with a strong sense of American Indian identity is more likely either to encounter discrimination or to attribute unfavorable peer and faculty interactions to racial discrimination. It may also be that American Indian students with a strong Indian identity are more aware of discrimination when it occurs than those with a less developed sense of identity.

Hypothesis 5: Tribal college students, in comparison to students at non-Indian institutions, will report greater growth in cultural knowledge/identification with American Indian cultures. American Indian students who attend non-Indian institutions will have stronger identity with non-Indian culture.

The data do not support this hypothesis. Institutional control does not affect most aspects of American Indian cultural knowledge/identity. The two exceptions are (1) students at low selectivity, non-Indian colleges are less likely to report living an American Indian way of life and (2) students at highly selective institutions are less likely to feel successful in an American Indian way of life. These are the only instances when the environmental variables of interest enter any of the three regressions with dependent variables that assess American Indian identity.

All environmental variables have significant simple correlations with the dependent variables measuring identity in the directions hypothesized. (i.e., attending a tribal or BIA college is positively associated with American Indian identity and attending a non-Indian college is negatively associated with American Indian identity). However, these correlations become non-significant when background characteristics are controlled.

Blood quantum is an important predictor of identity as measured by the Zimmerman identity scale, but not as strong a predictor of living and feeling successful in an American Indian way of life. The fact that completing one's intended degree is positively associated with identity as an American Indian suggests that completing a higher education degree does not necessarily mean that students will assimilate into a

non-Indian world, leaving their Indian heritage behind. Indeed, it suggests the opposite. American Indian identity, in other words, need not be a casualty of western education as some have viewed it historically.

In predicting identification with non-Indian culture, the environmental variables do little to explain living and being successful in a non-Indian way of life. Students who have higher blood quantum are less likely to identify with non-Indian cultures, and students who earn their intended degree are less likely to live in a non-Indian way of life. Again, these data suggest that completing a college degree does not signify assimilation into a non-Indian world.

Of potential concern is the finding of a negative effect of attending a BIA high school on feeling a success in a non-Indian way of life. Since other analyses show that feeling successful in a non-Indian way of life is an important predictor of persistence, BIA students may be at somewhat of a disadvantage before they get to the college campus. As with bachelor's degree persistence, attending a tribal school does not have the same negative effect that attending a BIA school does. Again, the emphasis placed on self-determination in a tribal school environment may be an important ingredient in these differential student outcomes.

Additional Findings

Tribal Colleges as a System

One of the purposes of this study was to examine the diversity among tribal colleges and makes certain comparisons among different tribally controlled colleges. Can this collection of tribal colleges be described as a true system of tribal colleges?

Empirical findings. Both quantitative and qualitative data collected in this study support the notion that these colleges represent a unique subset of institutions in American higher education. Although tribal college student bodies differ significantly from each other on Indian cultural variables, this variation should be expected given the heterogeneity of American Indian tribes. There are many "systems" in higher education that cater to different populations. The very nature of a community college is to serve and reflect the surrounding community. Variation on those aspects of Indian life that are linked with the unique circumstances of each tribe does not preclude talk of these institutions as a system. Equally important is the finding that tribal colleges – considered as a group – differ substantially from non-tribal colleges on all of these same tribally-related variables. In other words, while there is significant within-group variation among tribal colleges on these variables, the between-group variation – tribal vs. non-tribal – is considerably greater.

Another finding of considerable importance is that tribal institutions differ very little from each other on variables the have been shown to significantly affect student persistence. Thus, despite tribal heterogeneity and differences in student cultural characteristics, the student bodies of these institutions display remarkable similarity on traditional predictors of persistence. At the same time, tribal colleges – considered as a group – differ substantially from non-tribal colleges on these same predictors of persistence. In fact, when tribal and BIA student bodies are compared to American Indians who attended non-Indian colleges, it is clear that Indian colleges and non-Indian colleges serve two very different types of American Indian populations. Thus tribal and BIA colleges fill a unique niche in higher education because they serve a population that

has been previously underserved by formal western education systems. In this way tribal colleges are indeed a system. However, this is only part of what binds these institutions together.

Personal observations. In visiting tribal and BIA campuses, reading the self-studies of twelve of these institutions, and engaging in countless conversations with persons involved with these colleges, the author was able to sense the very unique character of institutions making up the tribal college system. While each campus is unique and completely autonomous, there is a sense of congruency among these colleges. These institutions do more than simply provide degrees; they are an important part of a movement to strengthen and reclaim tribal self-sufficiency, traditions, and sovereignty, and despite physical facilities that most participants in non-Indian higher education would find unacceptable, there is a spirit of reverence for this duty and enthusiasm about meeting this challenge that sustains faculty, staff, administrators, and students.

A site visit to Sitting Bull college on the Standing Rock reservation in Fort Yates, North Dakota provides a metaphorical example of this difficult-to-articulate quality. This college's facilities, which are similar to those of many tribal colleges, would be seen as substandard by eyes accustomed to the elegant Baroque architecture of UCLA. The dirt parking lot surrounds cinder block buildings that house dark corridors and cramped offices. Upon entering the President's office, one's attention is drawn to a headdress (sometimes referred to as a war bonnet) suspended in a glass case standing over five feet high. It is the headdress of Sitting Bull, one of the most revered Indian leaders after whom the college is named. The exterior condition of the building gives no clues as to

either the priceless item found within or the power or wisdom of the original wearer of this important symbol.

Faculty, staff, and administrators at tribal and BIA colleges appear to be people of tremendous quality, enthusiasm, and commitment to the students and community. They are a key part of a movement to preserve and restore tribal sovereignty. In many respects, it is this dedication to a broader purpose that sets these institutions apart as a unique phenomenon in American higher education.

The Influence of Blood Quantum

Given the strong association between various student outcomes and blood quantum, this background characteristic warrants further discussion. When considering the effects of blood quantum, the ability to keep in mind the distinction between the genetic and the more socio/economic/cultural aspects of high American Indian blood quantum is important in drawing meaningful and valid conclusions. A purely racial argument is not being made and the data do not support such an argument. Blood quantum was one of a number of variables intended to reflect the student's background and association with tribal culture. It is interesting that none of the other background characteristics measuring level of association with tribal culture (tribal membership, speaking a Native language, living on a reservation) has as much influence on the outcomes as does blood quantum. Simple correlations of the other factors are significant, but usually lose significance once blood quantum has been controlled. Students with high blood quantum also have lower GPA's in both high school and college, lower

degree aspirations, and lower retention rates; report less self-reported growth in basic academic skills; cognitive development, and interpersonal skills, are less satisfied with support services, curriculum and instruction; feel more discrimination from faculty, and spend less time in class. At the same time, students with high blood quantum are more likely to report growth in cultural knowledge/identity, are more satisfied with the American Indian emphasis of their college, have stronger American Indian identities, and spend more time at American Indian community meetings.

It would be a mistake to conclude that it is high American Indian blood quantum per se that directly affects these variables. Rather, blood quantum should be seen as a proxy measure for a whole cluster of more socially and culturally bound variables: tribal membership, living on a reservation, speaking a Native language, poverty, the experience of racism, and identity as an American Indian. These are not genetic factors; they are social and cultural factors. Blood quantum thus represents an aspect of being American Indian that is not fully explained by these variables. In short, blood quantum measures something integral about the experience of being American Indian that has not been accurately operationalized here by any other single variable.

Implications for Theory, Policy, and Practice

Social Reproduction, Status Attainment, and Institutional Fit

Theories of social reproduction, status attainment, and institutional fit provided a theoretical framework for this study. These theories and how they apply to American Indian education are discussed in light of the findings.

Social reproduction and status attainment theories maintain that students with higher SES and more cultural capital (Bourdieu, 1973, 1977) will attend the most highly selective institutions, thereby achieving higher status than low SES students with comparable academic ability (Weber, 1978; Collins, 1971). This study confirms the first part of this theoretical framework – tribal/BIA colleges, which are "lower status", enroll students with lower SES and less cultural capital than do mainstream institutions. However, the second part of the theory is only partially supported given that college type does not affect most outcomes. Degree completion, the outcome variable in this study that is most closely linked with status attainment, is only weakly affected by attending a tribal or BIA college after the lower status backgrounds of the students are controlled.

According to social reproduction and status attainment theories, attending a tribal/BIA college should reproduce low status. However, these theories are based upon western assumptions of what constitutes status, which has most often been defined in materialistic terms such as income. Traditional American Indian ideals of status tend to be very different than western ideals. In contrast to materialism, behaviors such as practicing a tribal religion, speaking a Native language, supporting extended family, and remaining close to home are more in keeping with tribal values and may thus be seen as high status. In this way tribal colleges may be seen as contributing to social reproduction and high status in American Indian communities. The students who enroll at tribal colleges come to college with more knowledge and more "Indian cultural capital" and the tribal college may reinforce this. It also could be argued that non-Indian colleges contribute to low tribal status.

Perhaps social reproduction and status attainment theories need to be revised when we try to apply them to American Indians in higher education. While it may be argued that tribal/BIA colleges reproduce low status as measured by variables such as degree completion and income, they may be producing higher status as measured by tribal values. Although this study cannot confirm this speculation, future studies should reconceptualize "status" and "cultural capitol" to include non-western values when working with American Indian populations.

Another framework that this study drew from is social integration theory, which maintains that students drop out of college because they fail to integrate themselves into the new environment (Hossler, Bean and Associates, 1990). Lack of integration, in turn, is seen to be a result of incongruence and isolation (Tinto, 1987). Thus, in order to become socially integrated and develop "institutional commitment" and "goal commitment," the students must, in part, separate from their prior environments. Critics have suggested that this places American Indians at a severe disadvantage in traditional higher education institutions (Tierney, 1992). Because tribal colleges provide higher education in a culturally familiar setting, they have the potential to provide a better "fit" than non-Indian institutions do.

What this dialogue lacks is a discussion regarding the heterogeneity of American Indians. It can not be assumed that because a student is an American Indian that that student would find a non-Indian campus unfamiliar and that a tribal college would provide a better fit. Many American Indian students in this study had little familiarity with tribal culture, were raised in an urban or suburban setting, and had little identity as an American Indian. Oglala Lakota College would likely provide a poor fit for this type

of student. The ability of American Indian students to become integrated into the college community with a minimum of discontinuity obviously depends upon the background of the student and the environment of the campus. In future research, it would thus be important to assess "fit" not in terms of some crude "Indian/non-Indian" dichotomy, but rather in terms of the degree to which the student and the institution reflect an American Indian identity.

Student Right to Know

Based on the findings of this study, the utility and fairness of the Federal Campus Security and Student Right to Know Act is questioned. Although this effort to provide prospective students and their families with information regarding institutional effectiveness and make institutions more accountable is well intentioned, it is misguided. Institutions are required to report a retention rate without accounting for student background characteristics. These unadjusted retention rates unfairly penalize those institutions that enroll students who are considered at risk of dropping out (Astin, Tsui, Avalos, 1996). This is particularly true of tribal and BIA colleges, since these institutions admit students who are not only poorly prepared academically, but who also have cultural characteristics that have been shown to impact negatively on degree completion. Once these factors are statistically controlled, the differential retention rates are either lessened or completely eliminated. Unadjusted retention rates, in short, do not give an accurate account of the capacity of tribal/BIA institutions to assist their students to complete their programs of study.

Although it is unlikely the federal government will change this policy of reporting raw retention rates, Tribal/BIA colleges, students, and parents should understand the limited nature of this form of reporting. Individual tribal and BIA colleges should conduct and publicize their own research to supplement the simplistic information the Student Right to Know policy provides. This requires tribal/BIA institutions to invest in quality institutional and academic research, which has, until now, been a low priority at many two-year institutions. Given that the Student Right to Know policy can impact negatively on tribal/BIA colleges, this would be a wise investment. One approach would be for these institutions to contract with outside researchers or research organizations to develop "expected" retention rates (based on entering student attributes) that could be compared with actual rates (Astin, Tsui, Avlos, 1994). This discussion also underscores the need for tribal/BIA colleges to conduct research collaboratively, so that they can exchange data and insights to develop more effective programs for the unique students they serve.

Increased Funding to Tribal and BIA Institutions

One of the major impressions gained from the site visits is the meager physical plant facilities and inadequate support available at tribal colleges. These impressions were supported by student survey data in the BIA colleges. Since the lack of funding for tribal/BIA institutions is readily apparent and well documented (Carnegie, 1997), funding for tribal/BIA institutions needs to be increased. The Tribally Controlled Community College Act of 1978 is a crucial funding source, especially in light of the fact that tribal institutions do not receive state funding, as other community colleges do. And even

though authorizations made possible by the Act 1978 are low, appropriated funds have never kept pace with the authorized levels. Thus, although funding has increased over the past few years, it has never met the need.

Tribal/BIA institutions are not the only system in higher education that receives federal – as opposed to state and private– funding. Military colleges and college located in the District of Columbia are also federally funded. There is an appalling disparity, however, between the levels of funding between these two systems of higher education. Military institutions have some of the highest per-pupil funding levels in all of American higher education, whereas tribal/BIA colleges have one of the lowest levels. Tribal colleges have been able to eke out an existence and have survived despite these and many other obstacles, but it is time they had the financial resources to fulfill their vision, not just to survive.

Research at Tribal/BIA institutions

It has already been noted that the effects of tribal/BIA colleges on their students are not well understood because of a lack of quality research. Lack of funding has been identified as a major contributor to this paucity of scholarly research, but it is not the only reason. There is also a general mistrust and devaluing of scholarly research at many tribal/BIA colleges. Some colleges have had negative experiences with outside researchers. Many researchers have not provided results to these colleges and, in at least one case, the researcher wrote some unflattering things about one of the colleges. There seems to be a feeling among some tribal college personnel that researchers use the colleges to make names for themselves and contribute nothing to, and sometimes even

harm, the institution. Such experiences make it extremely difficult to gain access to tribal colleges and help to make tribal institutions reluctant to participate in established ongoing programs of research such as the CIRP.

On the other hand, it must be recognized that academic research should not be designed to be a public relations tool. Much that has been written about tribal colleges by their supporters amounts to cheerleading for ourselves. Such articles could reflect the writers' zealous support of tribal colleges, but it could also reflect their fear of losing access if anything negative is published. Perhaps it is both. As the Carnegie Foundation's special report, *Native American College; Progress and Prospects* (1997) states, "Their [tribal colleges'] value has been proven, but their vision is not yet fulfilled". Critical self-assessment can be an important tool in fulfilling that vision.

At the same time, researchers must act ethically and responsibly when working with tribal colleges. The potential for mistrust must be understood and the researcher should make extra efforts to assuage suspicion. Researchers must also make an effort to connect research to the practical needs of the college and to communicate relevant results to the college in a comprehensible fashion. Ideally each participating college should receive special reports that highlight findings that are directly relevant to the improvement of policy and practice.

Reciprocal Focus Group

As noted in Chapter four, this study piloted a new twist on the standard methodological technique of focus groups called reciprocal focus groups. The 1999 American Indian Higher Education Consortium annual conference offered an opportunity

to conduct a reciprocal focus group and pilot a new methodological approach where discussion is generated by the presentation of the statistical findings. This allowed the author to incorporate the ideas and experiences of persons closely linked to the tribal and BIA college experience into the interpretation of the findings. Although this technique is often used in qualitative analysis, the use of quantitative data in this process is a novel approach. Allowing those who are being studied to have some direct input into the interpretation of the statistical analysis provided important insights as to possible reasons behind, and meanings of, the statistical findings.

At the onset there were two major concerns about this approach. First, could an audience not familiar with survey methodologies and multivariate statistics comprehend and interpret complex findings in the short amount of time allotted? Second, would the group, many of whom are suspicious of research conducted by an outsider, be receptive to those findings that might be seen as reflecting negatively on tribal colleges? The answer to both these questions is yes. Focus group participants readily grasped the concepts behind the major findings. These findings then became the basis for a lively discussion that included both speculation and the sharing of personal anecdotal experiences. For this method to work, it is of paramount importance that the researcher present findings in a way that can be understood by people unfamiliar with statistics.

The second concern about a possibly hostile reception to negative findings proved to be unfounded, possibly because of the manner in which the group was oriented to the session. It was explained that the study and the focus group are part of an effort to improve American Indian higher education at both Indian and non-Indian colleges. They were told that their comments would help the author to interpret the statistical findings.

Participants subsequently viewed the results in a collaborative spirit and provided thoughtful and relevant comments.

The value of this kind of methodology is that it satisfied two basic goals: 1) it provides additional insight into the meaning of the findings, and 2) it fulfills the responsibility of the researcher to provide useful feedback to the researched. A critical element in establishing the reciprocal relationship that is so important to the success of this kind of research is to present evidence to the tribal colleges that trusting me was not a mistake. Because prior negative experiences with outside researchers have made some tribal institutions reluctant to participate in research projects that they do not initiate and oversee, gaining access to these institutions took two years of persistent effort. This focus group not only gave the colleges an opportunity to see the results, but also allowed than to have their voices heard in the final report.

Feasibility of an Institute for the Study of American Indian Higher Education

As stated earlier, an important purpose of this study was to test the feasibility of creating an Institute for the Study of American Indian Higher Education. This Institute would collect longitudinal data on all tribal college freshmen and conduct regular follow-up studies, using American Indian students at non-tribal higher education institutions from the CIRP as a comparison group. Such a data base will include not only assessments of student imputs and outcomes, but will also incorporate longitudinal information on college programs, tribal economic indicators, education levels, substance use, and tribal activities to assess what effects the institutions are having, not only on individual students, but also on tribal communities as well. This dissertation provided an

opportunity to identify the possibilities and potential obstacles to creating such an institute.

The reasons for conducting systematic research on tribal colleges and their students are many. As stated before, most tribal colleges lack the resources of money and personnel to conduct in depth institutional research on their own. Even when this type of research in conducted at an individual campus, the small size of the student population limits the use of multivariate analysis and related methodologies that have been shown to be vital in gaining an accurate picture of retention and other student developmental outcomes. Such an institute could provide colleges with important information regarding student development and college effectiveness that could in turn, inform practice. Among other things, such an Institute would be of direct benefit to the colleges by providing them with information to satisfy the increased calls for "accountability" from state, and federal agencies, and private foundations.

Such an institute could also conduct research that informs educational theory. Like most community colleges, tribal colleges would be inclined to regard academic research like this dissertation as a luxury. In contrast to what a single college could do, such an institute would be able to conduct research that could further our theoretical understanding of the role of higher education in the reservation communities, new approaches to teaching, the effectiveness of non-tribal institutions in providing higher education to American Indians, the interplay of race and education in social mobility, and the importance of cultural identity and tribal traditions in the lives of American Indians. It is unlikely that this type of broad based theoretical and policy research could be examined without such an institute. In other words, an institute for the Study of American Indian Education could make a contribution to both traditional and Indian higher education while simultaneously educating non-Indian educators and the general

public about tribal colleges, their accomplishments and their contributions to educational innovation.

An important consideration in establishing such an institute is the ability and willingness of tribal colleges to participate given their limited personnel and equipment. Tribal colleges would be better able to participate in the institute if it were organized so as to minimize the financial and administrative burden on them. Data collection would need to be centralized, with entering student surveys shipped to the colleges and given to students when they register. Completed surveys would then be mailed to the institute for input and analysis. The institute would maintain the data base and mail follow-up surveys directly to the students. This would require a minimum of effort from tribal college personnel. A centralized plan of data collection thus serves two purposes 1) it alleviates the demand on campus personnel and 2) it reduces errors and delays by standardizing data input and analysis.

Funding is another important consideration. Since it is unrealistic to expect the colleges to divert their resources to support the institute, it would need federal and/or private foundation funding. Although it has never kept pace with the need, both federal funding and grants awarded by private foundations to tribal colleges has been increasing. A greater interest and confidence in tribal colleges among potential funding sources is apparent, and with the current movement for accountability and "outcome" studies, acquiring funding for such an institute seems a strong possibility.

The most important consideration in establishing an institute is the willingness of tribal institutions to participate. At this point in time, this is the most problematic aspect of the proposed Institute. Even though acquiring cooperation for this study took over two years of consistent effort half of the institutions did not or could not participate. In many cases, that fact that the study was being conducted by an American Indian student made

administrators much more willing to participate. It seemed that some were willing to put aside their usual rules prohibiting research on their students only because it was a one-time study which would help an American Indian student complete her education. Tribal colleges are not enthusiastic about participating in research projects that they do not initiate and oversee. In addition, they are protective of their autonomy, not only as institutions but also as tribal institutions. The likelihood that all tribal colleges would buy into such a centralized, standardized, and public program of research initiated by an outsider to the system is very low.

Perhaps the best approach for creating such an institute would be to have the American Indian Higher Education Consortium (AIHEC) take the lead in gaining access to and cooperation of the colleges. AIEC has developed a database of tribal institutions for the past few years, and has developed a level of trust and cooperation with tribal institutions. Their aim is to compile information on college characteristics as well as student unit data (i.e. grades, placement test scores, financial aid). The proposal that secured the funding for this project was created by representatives from a number of the tribal institutions and other organizations, including AIHEC and the American Indian College Fund. After securing funding, a steering committee was formed consisting of college personnel to oversee the project. This project may set the precedent for establishing an institute. Perhaps by expanding the scope of this present project, it could become the starting point from which an institute could be built. Expansion could take place slowly at a pace that tribal colleges would be comfortable with. This would require finding new sources of funding and developing new partnerships (such as CIRP) which would be brought in when needed.

In summary: an Institute for the Study of American Indian Higher Education is needed, logistically possible, and has the potential to secure the necessary funding. The participation of tribal colleges, the most important consideration, seems to be the most uncertain aspect of such a venture. By expanding existing programs coordinated by organizations that are trusted by tribal colleges, and ensuring that tribal colleges have sufficient oversight of the project, it may be possible to establish such an Institute over time.

Limitations and Recommendation for Future Research

A number of factors limit the validity of the data and the generalizability of the interpretations presented in this chapter. In this section these limitations are discussed and recommendations for future research that addresses them are provided.

Perhaps the most glaring limitation of the study is the low response rate of nine percent, which runs the risk of rendering the sample unrepresentative. The pilot study for this dissertation, in which only one wave of the survey was mailed, yielded a similar response rate of eleven percent (Machamer, 1998). Several factors account for such a low rate of response. First, this sample is comprised of two groups that have traditionally had the lowest response rates to mailed surveys in higher education: American Indians and community college students. Second, the addresses provided by the tribal and BIA colleges and by the CIRP were over five years old. Finally, due to budgetary and time constraints, a second wave of mailings was not done, and no other effort was made to increase response rates. In short, although this response rate is low, it is neither unique nor unexpected.

Future studies should build into data collection designs ample time and money to conduct more than one wave of mailed surveys. Sending pre-post cards to students to alert them to the forthcoming survey and weed out the outdated addresses proved to be cost effective. Two waves of mailings and a reminder post-cards should be made part of any data collection design. Individual colleges should encourage students to cooperate with such research projects by impressing upon them the potential benefits research can bring to the college early in the student's association with the institution.

The lack of longitudinal data and the resulting reliance on data that had been recalled is another limitation of this study. Although most recall data is statistically reliable, student recall is not 100 percent accurate, especially when it comes to degree aspirations. The need to collect longitudinal data on American Indians in higher education cannot be understated. Registration or orientation are excellent opportunities to collect base-line data on students. Colleges should either design their own surveys or employ the services of experienced and established programs of research such as the CIRP.

Another limitation of this study was that the wording of some questions rendered them invalid for students who has dropped/stopped out of college. Students were asked to indicate how often they had engaged in certain activities "in the past year." While the aim of this set of items was to determine the student's activities and experiences during the last year in college, the question specified only the "past year." For most students who had dropped out of college, this question would thus be recording experiences and activities they engaged in after leaving the college environment. As a result; these items measuring student activities and experiences were not used in certain analysis. The

questions should have asked how often students engaged in these activities their last year in college, instead of in the past year. Of particular importance in future research would be to include the type of peer group experiences that the studied has had (Astin, 1993;Antonio, 1998). Future studies collecting data from college alumni should specify the place as well as time an experience or activity took place.

Another limitation of this study is the variables used to assess college environments. To ascertain the effects of institutional control on student development, this study focused on college type and controlled for the "selectivity" level of the college (based on the average SAT and ACT scores of the college's entering freshmen). In future studies, variables that would reflect other differences in college environments should be included. For example, the size of an institution and its average class size are two potentially important variables that should be controlled. Such studies should also assess the availability of facilities such as dormitories, libraries, and child care centers, to name a few. Finally, the nature of the student's contact with services such as tutorial help, academic counseling, transportation, and psychological services should also be considered for inclusion in the database.

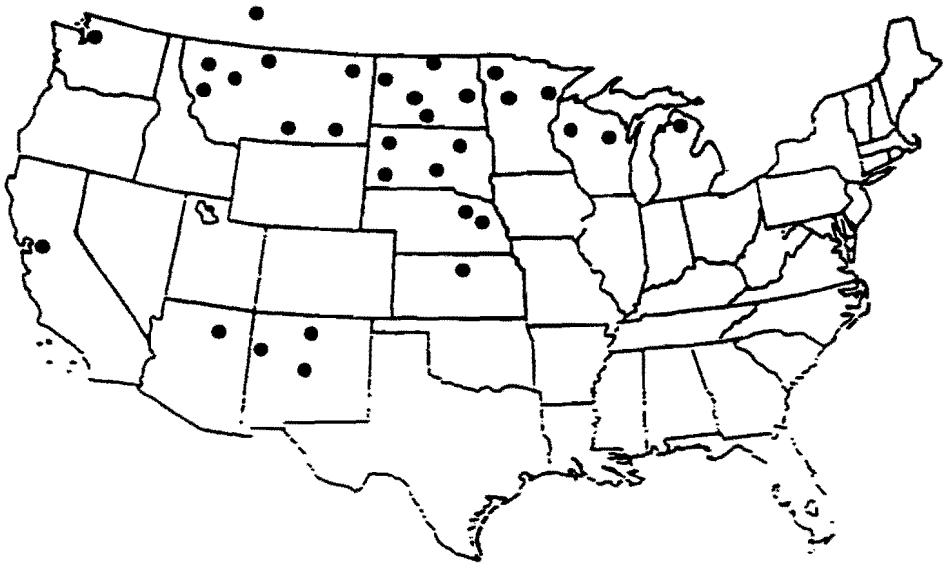
Perhaps the most difficult limitation to contend with in this study is its attempt at operationalizing the nebulous and heterogeneous nature of being an American Indian in the twenty-first century. This study does not purport to measure adequately the complex experience of being American Indian, an experience that is both individual and collective. Any variable that attempts to assess "identity" or "background" cannot hope to fully measure the effects of different tribal histories and levels of acculturation and

enculturation. Although these variables give a rough picture of American Indian identity, one cannot really hope to quantify legacies that span five hundred years.

Appendix A

Locations of Tribally Controlled Colleges

Geographic Location of Tribal Colleges



Source: American Indian Higher Education Consortium (AIHEC) and The Institute of Higher Education Policy. Tribal Colleges an Introduction. February 1999.

Appendix B

American Indian Follow-Up Study (AFUS)

and Cover Letter

Along The Red Road Project
A Kellogg funded, UCLA Administered Study of American Indian Education
2884 Sawtelle Blvd. #113 Los Angeles, CA 90064 (310) 575-9391 ambermac@ucla.edu

Dear former or current American Indian Student,

You have been selected to participate in a very important national study on how college affects American Indian students. My name is Amber Machamer and I am an American Indian student earning my Ph.D. in education. As part of my degree I am conducting a study on American Indian college students. As a former (or current) American Indian student, your experiences and opinions are very important if colleges are to provide relevant, quality education and help students reach their personal goals. You can be a part of this groundbreaking research simply by completing the enclosed questionnaire.

I am asking you to help me by taking 15-20 minutes of your valuable time to complete the enclosed questionnaire and send it back in the self addressed, stamped envelope. Please complete the questionnaire even if you withdrew from college or changed schools. I am interested in your experiences no matter how long you attended. The information you provide is strictly CONFIDENTIAL. You have been assigned a code number and you will not be personally identified in any way.

Because your time and effort is very much appreciated, returned surveys will immediately be entered in a raffle to win one of five prizes. Winners will have their choice of a PENDLETON BLANKET or $100 CASH. Since the number of students chosen to participate in this survey is relatively small, your chance of winning a prize is quite high compared to most raffles.

I thank you, in advance, for your assistance. Your responses may help to improve the quality of education available to Indian peoples and will help one Indian student finish her education. If you have any questions please contact me at the above address and phone number. I can also be reached by e-mail ambermac@ucla.edu. I wish you the best in all your endeavors.

In Spirit,

Amber Machamer
Coastal Band of the Chumash Nation

ALONG THE RED ROAD PROJECT
A Kellog-funded, UCLA Administered Study of American Indian Education
AMERICAN INDIAN FOLLOW-UP SURVEY

Your assistance with this important project is very much appreciated. Please clearly mark the items that apply to you, and PRINT neatly in the boxes provided. Example: ☒ Yes ☐ No Year 1 9 9 9

Your Background

1A. Name of college you were attending in Fall, 1993:

1B. Semester and year you entered this college:
☐ Fall ☐ Winter ☐ Spring Year 1 9 _ _

2. Your ethnicity: (mark all that apply)
☐ White/Caucasian ☐ Mexican American/Chicano
☐ African American/Black ☐ Puerto Rican
☐ American Indian ☐ Other Latino
☐ Asian American/Asian ☐ Other:_____

3. Date of birth: _ _ - _ _ - _ _ 4. Your high school GPA: _ . _ _

5. Primary tribal/band affiliation:

6. Are you an enrolled tribal member?
☐ Yes ☐ No ☐ In process

7. Closest total blood quantum:
☐ 1/16 or less ☐ 1/2
☐ 1/8 ☐ 3/4
☐ 1/4 ☐ 4/4 Full Blood

8. Your gender:
☐ Male ☐ Female

9. Highest educational level of your parents:

	Mother	Father
Grade school or less	☐	☐
Some high school	☐	☐
High school	☐	☐
Some college	☐	☐
College degree (BA or BS)	☐	☐
Graduate/professional degree	☐	☐

10. In which setting were you primarily raised?
☐ Urban ☐ Suburban
☐ Rural ☐ Reservation/Reserve or Rancheria

11. Who primarily raised you? (mark all that apply)
☐ Biological mother or father
☐ Single mother
☐ Single father
☐ Adoptive parents
☐ Foster parents
☐ Biological parent and step-parent
☐ Related legal guardian (grandparent, aunt/uncle, sibling)
☐ Non-related legal guardian
☐ Other:_____

12. What type of high school did you attend?
☐ Public school ☐ BIA boarding school
☐ BIA day school ☐ Continuation high school
☐ Tribally-run school ☐ Contract or grant school
☐ Magnet school ☐ Other school:_____
☐ Private school

13. Do you speak a language other than English at home?
☐ Yes
☐ No

14. If "yes", please PRINT other language spoken:

15. Degree/certificate earned before entering college:
☐ High school diploma
☐ GED
☐ Not applicable (did not graduate from high school)

31304

16. Please PRINT if applicable:
Year in which you graduated high school: 19
Year in which you earned your GED: 19
GED granting institution:

When answering the next set of questions please give your best recollection of your circumstances before you entered college in 1993.

17. Please estimate your family income in 1993.

- ☐ Less than $5,000
- ☐ $5,000 - $9,999
- ☐ $10,000 - $14,999
- ☐ $15,000 - $19,999
- ☐ $20,000 - $24,999
- ☐ $25,000 - $29,999
- ☐ $30,000 - $39,999
- ☐ $40,000 - $49,999
- ☐ $50,000 - $59,999
- ☐ $60,000 - $74,999
- ☐ $75,000 - $99,999
- ☐ $100,000 - $149,999
- ☐ $150,000 - $199,999
- ☐ $200,000 or more

18. Your marital status when you ENTERED college in 1993:

- ☐ Married
- ☐ Divorced
- ☐ Single (never married)
- ☐ Common-law (living with partner)
- ☐ Separated
- ☐ Other:_____

19. When you ENTERED college, what was the highest degree you planned to earn?

- ☐ None
- ☐ Vocational certificate
- ☐ Associate (A.A. or equivalent)
- ☐ Bachelor's degree (B.A., B.S)
- ☐ Master's degree (M.A., M.S.)
- ☐ Ph.D. or Ed.D.
- ☐ M.D., D.O., D.D.S., D.V.M.
- ☐ LL.B. or J.D. (Law)
- ☐ B.D. or M.Div (Divinity)
- ☐ Other degree

20. Did you attend another college before the one you entered in 1993?

☐ Yes ☐ No

If "yes", please indicate the type of college you attended:

- ☐ Community College
- ☐ Public 4-year college
- ☐ Vocational/technical school
- ☐ Other college:_____

21. Your status before entering college in 1993:

- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Student, full-time
- ☐ Student, part-time
- ☐ Active military service
- ☐ Homemaker
- ☐ Retired
- ☐ Unemployed/not a student
- ☐ Other:_____

22. If employed before entering college in 1993, how would you classify your job?

- ☐ Laborer (unskilled)
- ☐ Semi-skilled labor (sales clerk, data entry, etc.)
- ☐ Skilled labor (welder, lab technician, etc.)
- ☐ Sales/ proprietor
- ☐ Farmer/rancher
- ☐ Professional/manager
- ☐ Other:_____

23. Your status when you entered college in 1993:

☐ Full-time student ☐ Part-time student

24. How important was the following in your decision to attend college? (Please circle your response)

	Very Important	Somewhat Important	Not Important
Parents wanted me to go	1	2	3
To get away from home	1	2	3
Could not find a job	1	2	3
To get a better job	1	2	3
Update job-related skills	1	2	3
To make more money	1	2	3
To gain an appreciation of ideas	1	2	3
To improve reading/study skills	1	2	3
Learn about interesting things	1	2	3
Prove to others I could do it	1	2	3
Transfer to a 4-year college	1	2	3
Nothing better to do	1	2	3
Preparation for graduate/prof. school	1	2	3
To become a more cultured person	1	2	3
Mentor encouraged me to go	1	2	3
Prove to myself I could do it	1	2	3
Earn a degree/certificate	1	2	3
To play college-level sports	1	2	3

25. Before entering college in 1993, did you ever receive any tutorial help?

☐ Yes ☐ No

If "yes", please specify the type of tutorial help:

☐ Mathematics ☐ Science

☐ English ☐ Other:_____

26. When you entered college in 1993, how many miles away from the college did you live?

☐ 5 miles or less ☐ 51-100 miles

☐ 6-10 miles ☐ 101-250 miles

☐ 11-50 miles ☐ 251 miles or more

27. Number of dependent children in 1993: ☐

28. How important were the following reasons in enrolling in your 1993 college? (please circle appropriate number)

	Very Important	Somewhat Important	Not Important	Not applicable
Advice from relatives	1	2	3	N
Advice from teacher	1	2	3	N
Advice from high school counselor	1	2	3	N
Low tuition	1	2	3	N
College was tribal/Indian controlled	1	2	3	N
Close to home	1	2	3	N
Large number of Indian students	1	2	3	N
Offered financial aid	1	2	3	N
Large number of Indian faculty	1	2	3	N
Emphasis on tribal cultures/values	1	2	3	N
Good academic reputation	1	2	3	N
Advice from friend/mentor	1	2	3	N
Recruited by athletic department	1	2	3	N
Recruited by college rep	1	2	3	N
Graduates get into good schools	1	2	3	N
Graduates get good jobs	1	2	3	N
Not accepted anywhere else	1	2	3	N
Size of college	1	2	3	N
Special programs offered	1	2	3	N

The next set of questions is asking information on your experiences during college. Please answer even if you withdrew from college or have not yet completed college.

29. Since entering college in 1993, have you: (mark all that apply)

☐ Withdrawn from college

☐ Taken a leave of absence

☐ Transferred to another college

☐ None of the above

If you marked "none of the above", please skip to question 031 on the following page.

30. If you took a leave of absence, transferred to another college, or withdrew, how important were the following reasons in your decision? (Please circle number)

	Very Important	Somewhat Important	Not Important
Reconsidered goals and interests	1	2	3
Changed career plans	1	2	3
Wanted practical experience	1	2	3
Didn't fit in	1	2	3
Wanted college with better reputation	1	2	3
Was bored with coursework	1	2	3
Wanted better social life	1	2	3
Wanted to be closer to home	1	2	3
Had a good job offer	1	2	3
Wasn't doing well academically	1	2	3
Family responsibilities	1	2	3
Tired of being a student	1	2	3
Money problems	1	2	3
Too few courses offered	1	2	3
Had a child	1	2	3
Transportation problems	1	2	3
Family death/hardship	1	2	3

31. Please indicate how often you have engaged in the following activities in the past year.

	Often	Sometimes	Rarely	Never
Socialized with people of a different race	☐1	☐2	☐3	☐4
Felt lonely or homesick	☐1	☐2	☐3	☐4
Felt overwhelmed	☐1	☐2	☐3	☐4
Felt depressed	☐1	☐2	☐3	☐4
Felt discriminated against by a student due to race	☐1	☐2	☐3	☐4
Felt discriminated against by faculty due to race	☐1	☐2	☐3	☐4
Participated in Indian religious ceremonies	☐1	☐2	☐3	☐4
Participated in Indian cultural activities and events	☐1	☐2	☐3	☐4

32. Since entering college have you:

Taken any remedial courses?	☐ Yes	☐ No
Participated in ethnic/racial organizations?	☐ Yes	☐ No
Had a part-time job on campus?	☐ Yes	☐ No
Had a part-time job off campus?	☐ Yes	☐ No
Had a full-time job?	☐ Yes	☐ No

33. During the past year, how much time did you spend during a typical week doing the following activities?

	None	1-5 hours	6-10 hours	11-20 hours	21-50 hours	51+ hours
Socializing with friends	☐1	☐2	☐3	☐4	☐5	☐6
Exercising/sports	☐1	☐2	☐3	☐4	☐5	☐6
Partying	☐1	☐2	☐3	☐4	☐5	☐6
Reading for pleasure	☐1	☐2	☐3	☐4	☐5	☐6
Volunteer work	☐1	☐2	☐3	☐4	☐5	☐6
Working for pay	☐1	☐2	☐3	☐4	☐5	☐6
Clubs or groups	☐1	☐2	☐3	☐4	☐5	☐6
Watching TV	☐1	☐2	☐3	☐4	☐5	☐6
Commuting	☐1	☐2	☐3	☐4	☐5	☐6
Religious or spiritual meetings	☐1	☐2	☐3	☐4	☐5	☐6
Hobbies	☐1	☐2	☐3	☐4	☐5	☐6
Classes/labs	☐1	☐2	☐3	☐4	☐5	☐6
Studying/homework	☐1	☐2	☐3	☐4	☐5	☐6
American Indian community meetings	☐1	☐2	☐3	☐4	☐5	☐6

34. Compared with when you entered college as a freshman, how would you describe yourself now?

	Much stronger	Stronger	No change	Weaker	Much weaker
General knowledge	☐1	☐2	☐3	☐4	☐5
Analytical and problem solving skills	☐1	☐2	☐3	☐4	☐5
Knowledge of a particular field or discipline	☐1	☐2	☐3	☐4	☐5
Ability to think critically	☐1	☐2	☐3	☐4	☐5
Job-related skills	☐1	☐2	☐3	☐4	☐5
Religious beliefs and convictions	☐1	☐2	☐3	☐4	☐5
Leadership abilities	☐1	☐2	☐3	☐4	☐5
Ability to work independently	☐1	☐2	☐3	☐4	☐5
Interpersonal skills	☐1	☐2	☐3	☐4	☐5
Tolerance for people with different beliefs	☐1	☐2	☐3	☐4	☐5
Acceptance of different races/cultures	☐1	☐2	☐3	☐4	☐5
Confidence in your academic abilities	☐1	☐2	☐3	☐4	☐5
Writing skills	☐1	☐2	☐3	☐4	☐5

34 (continued). Compared with when you entered college as a freshman, how would you describe yourself now?

	Much stronger	Stronger	No change	Weaker	Much weaker
Public speaking ability	☐1	☐2	☐3	☐4	☐5
Competitiveness	☐1	☐2	☐3	☐4	☐5
Ability to work cooperatively	☐1	☐2	☐3	☐4	☐5
Mathematical skills	☐1	☐2	☐3	☐4	☐5
Reading speed and comprehension	☐1	☐2	☐3	☐4	☐5
Cultural knowledge of your tribe	☐1	☐2	☐3	☐4	☐5
Ability to influence others	☐1	☐2	☐3	☐4	☐5
Cultural knowledge of other tribes	☐1	☐2	☐3	☐4	☐5
Identity as an Indian person	☐1	☐2	☐3	☐4	☐5
Commitment to contribute to your tribe	☐1	☐2	☐3	☐4	☐5
Commitment to American Indians in general	☐1	☐2	☐3	☐4	☐5

35. Please rate your satisfaction with your 1993 college on each of the aspects of campus life listed below.

	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Can't rate
Science and mathematics courses	☐1	☐2	☐3	☐4	☐N
Humanities courses	☐1	☐2	☐3	☐4	☐N
Social science courses	☐1	☐2	☐3	☐4	☐N
Courses in your major	☐1	☐2	☐3	☐4	☐N
Relevance of coursework to everyday life	☐1	☐2	☐3	☐4	☐N
Overall quality of instruction	☐1	☐2	☐3	☐4	☐N
Laboratory facilities and equipment	☐1	☐2	☐3	☐4	☐N
Library facilities	☐1	☐2	☐3	☐4	☐N
Computer facilities	☐1	☐2	☐3	☐4	☐N
Opportunities to discuss coursework outside of class with professors	☐1	☐2	☐3	☐4	☐N
Opportunities to participate in extracurricular activities	☐1	☐2	☐3	☐4	☐N
Campus social life	☐1	☐2	☐3	☐4	☐N
Tutorial help or other academic assistance	☐1	☐2	☐3	☐4	☐N
Academic advising	☐1	☐2	☐3	☐4	☐N
Career counseling and advising	☐1	☐2	☐3	☐4	☐N
Personal counseling	☐1	☐2	☐3	☐4	☐N
Student housing	☐1	☐2	☐3	☐4	☐N
Financial aid services	☐1	☐2	☐3	☐4	☐N
Amount of contact with faculty	☐1	☐2	☐3	☐4	☐N
Opportunities to attend films and concerts	☐1	☐2	☐3	☐4	☐N

35 (continued). Please rate your satisfaction with your 1993 college on each of the aspects of campus life listed below.

	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Can't rate
Job placement services	☐1	☐2	☐3	☐4	☐N
Campus health services	☐1	☐2	☐3	☐4	☐N
Class size	☐1	☐2	☐3	☐4	☐N
Interaction with other students	☐1	☐2	☐3	☐4	☐N
Ability to find a faculty/staff mentor	☐1	☐2	☐3	☐4	☐N
Diversity of the faculty	☐1	☐2	☐3	☐4	☐N
Leadership opportunities	☐1	☐2	☐3	☐4	☐N
Overall college experience	☐1	☐2	☐3	☐4	☐N
Opportunities to take American Indian cultural classes	☐1	☐2	☐3	☐4	☐N
Faculty offering an Indian perspective	☐1	☐2	☐3	☐4	☐N
Child care facilities	☐1	☐2	☐3	☐4	☐N
Internships/opportunities for applied learning	☐1	☐2	☐3	☐4	☐N

This section is seeking information about your life since attending college.

36. Your overall college GPA: ☐.☐☐

37. Please indicate the HIGHEST degree you currently hold:

- ☐ None
- ☐ GED/High School diploma
- ☐ Vocational certificate
- ☐ Associate degree (A.A.)
- ☐ Bachelor's degree (B.A. or B.S.)
- ☐ Master's degree (M.A.)
- ☐ Ph.D. or Ed.D.
- ☐ Other degree:_____

38. If your 1993 college was not an option, would you have attended another college or trade school?

- ☐ Definitely not
- ☐ Probably not
- ☐ Probably yes
- ☐ Definitely yes
- ☐ Don't know/undecided

39. If you had it to do over again, would you still choose enroll at your 1993 college?

- ☐ Definitely not
- ☐ Probably not
- ☐ Probably yes
- ☐ Definitely yes

40. Would you recommend your 1993 college to a friend or relative?

☐ Yes ☐ No

41. How would you classify your current employment status?

- ☐ Not currently employed
- ☐ Full-time student
- ☐ Part-time student
- ☐ Laborer (unskilled)
- ☐ Semi-skilled labor (sales clerk, data entry, etc.)
- ☐ Skilled labor (welder, dental hygienist, etc.)
- ☐ Sales/proprietor
- ☐ Professional/manager
- ☐ Farmer/rancher
- ☐ Other:_____

42. If unemployed, are you seeking work at this time?

☐ Yes ☐ No

This section is seeking information about how you see yourself as an American Indian person. Some of the questions may be difficult for you to answer, however please give your most honest response. Remember, all your answers are strictly confidential.

44. How much do you live an American Indian way of life?

- ☐ A lot
- ☐ Some
- ☐ Not much
- ☐ Not at all

45. How much do you live a Non-Indian way of life?

- ☐ A lot
- ☐ Some
- ☐ Not much
- ☐ Not at all

46. Are you a success in the American Indian way of life?

- ☐ Very much
- ☐ Moderately
- ☐ Minimally
- ☐ Not at all

47. Are you a success in the Non- Indian way of life?

- ☐ Very much
- ☐ Moderately
- ☐ Minimally
- ☐ Not at all

48. How much do you see yourself as an American Indian? (please circle appropriate number)

A lot 1 2 3 4 5 Not at all

49. "I am proud to be an American Indian"

A lot 1 2 3 4 5 Not at all

50. Please rate the importance of the following:

	Very Important	Somewhat Important	Not Important
Following tribal customs	☐1	☐2	☐3
Seeing a medicine man when sick	☐1	☐2	☐3
Being successful in your job	☐1	☐2	☐3
Getting the best job possible	☐1	☐2	☐3
Living close to family members	☐1	☐2	☐3
Attending college	☐1	☐2	☐3
Graduating from college	☐1	☐2	☐3

51. How important is it to you to maintain your Indian identity, values, and practices? (Please circle appropriate number)

A lot 1 2 3 4 5 Not at all

52. How much do you know about your Indian culture?

A lot 1 2 3 4 5 Nothing

53. How interested are you in learning more about your tribal culture?

A lot 1 2 3 4 5 Not at all

54. How different do you think Indian culture is from non-Indian culture?

A lot 1 2 3 4 5 Not at all different

55. Do you participate in any of the following?(mark all that apply)

- ☐ Solstice Ceremonies
- ☐ Healings
- ☐ Pow-Wows
- ☐ Giveaways
- ☐ Sweatlodges
- ☐ Ceremonial fasting
- ☐ Seasonal feasts
- ☐ Other:_____
- ☐ Naming ceremonies

☐ I do not participate in Indian-related activities

56. Please explain in your own words what your college could have done to help you complete your education.

57. What could your college have done to make your college experience better or more valuable to you?

58. Please explain how your college best helped you to improve your college experience.

59. Any other comments about your college experience or this survey?

You're finished! Thank you!
Please place the completed survey in the return envelope and drop it in the mail to:
ALONG THE RED ROAD PROJECT
6607 Valjean
Van Nuys, CA 91406.
No postage is necessary. Raffle winners will be notified by mail in April.

Best wishes in your future endeavors!

313C4

Appendix C

Table of Step-By-Step Standardized Regression Coefficients for AA/Vocational Degree Completion

Appendix C: AA/Vocational Degree Completion

Variable	Step	Block	R	Rsq	r	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9
Blood Quantum	1	1	.27	.07	-.27*	-.27**	-.30**	-.27**	-.22**	-.21**	-.17*	-.14*	-.14*	-.13*
Age	2	1	.30	.09	.07	.13*	.13*	.14*	.16*	.17**	.13*	.13*	.15*	.16*
Success in Non-Indian way of life	3	2	.35	.12	.23*	.19**	.19**	.20**	.18**	.18**	.15*	.13*	.14*	.12*
Selectivity	4	3	.37	.13	.21*	.11*	.15*	.13*	.13*	.11*	.10*	.08	.08	.08
Time spent in classes	5	4	.41	.16	.21*	.18*	.19*	.19**	.18*	.17**	.19*	.16*	.16*	.16*
College GPA	6	4	.44	.18	.26*	.21**	.19**	.16*	.15*	.16*	.16*	.14*	.15*	.16*
Knowledge of particular field	7	5	.45	.19	.30*	.23**	.23**	.20**	.18*	.15*	.13*	.12*	.13*	.12*
Satisfaction with tutorial help	8	6	.48	.21	-.11	-.10	-.13*	-.15*	.06	-.14*	-.14*	-.15*	-.15*	-.20**
Satis. with oppor. to patic. in activities	9	6	.49	.22	.13*	.09	.09	.06	-.15*	.06	.07	.06	.13*	.13*
Selected Variables not in equation														
Tribal membership		1			-.20*	-.04	-.06	-.08	-.04	-.05	-.05	.00	.02	.04
Speak other language at home		1			-.12	.02	.03	.05	.05	.07	.05	.06	.04	.04
Raised on/near reservation		1			-.12	.04	.02	.04	.04	.07	.03	.04	.04	.04
Tribal college		3			-.17*	-.07	-.16*	-.13*	-.11	-.10	-.11	-.10	-.09	-.11
BIA college		3			-.10	-.03	-.01	-.00	.02	.03	.05	.05	.04	.05
Low selectivity non-Indian college		3			.08	.02	.04	.02	.07	.05	.05	.04	.05	.04
High selectivity non-Indian college		3			.19*	.08	.11	.11	-.01	.02	.01	.00	-.02	-.02
A.I. way of life		2			-.08	.09	.06	.06	.07	.05	.06	.08	.09	.09
Non-Indian way of life		2			.01	-.04	-.12	-.06	-.06	-.06	-.05	-.05	-.04	-.05
Success A.I. way of life		2			-.34*	.08	.06	.03	.02	.02	.00	.00	.01	.01
Zimmerman identity scale		2			-.11	.07	.05	.05	.04	.02	.03	.05	.06	.05

Appendix D

Table of Step-By-Step Standardized Regression Coefficients

Bachelor's Degree Completion

Appendix D: Bachelor's Degree Completion

Variable	Step	Block	R	Rsq	r	Step 1	Step 2	Step 3	Step 4
Blood quantum	1	1	.45	.21	-.46	-.46**	-.36**	-.36**	-.30**
Income	2	1	.49	.24	.37	.21*	.21*	.17*	.14*
Success in Non-Indian way of life	3	2	.52	.27	.24	.19*	.16*	.16*	.15*
Selectivity	4	3	.56	.31	.38	.26**	.23**	.22**	.22*
BIA college	5	3	.57	.33	-.28	-.18*	-.18*	-17*	-.14*
Time spent in classes	6	4	.60	.37	.21	.19*	.19**	.21**	.18**
Knowledge of particular field	7	5	.62	.40	.40	.27**	.25**	.22**	.21**
Tolerance of people with diff. beliefs	8	5	.64	.42	.05	-.03	-.05	-.06	-.06
Opportunity to attend films/concerts	9	6	.65	.43	.27	.18*	.18*	.17*	.14*
Satisfaction with lab facilities	10	6	.67	.45	.02	-.01	.01	-.02	-.06
Oppty. to discuss classwork with profs.	11	6	.68	.47	.27	.21**	.19	.18*	.16*
Satis. with humanities courses	12	6	.69	.48	.25	.20*	.18*	.16*	.13*
Selected Variables not in equation									
Tribal membership		1			-.35	-.10	-.11	-.12	-.06
Speak other language at home		1			-.30	-.09	-.07	-.07	-.05
Raised on/near reservation		1			-.32	-.10	-.06	-.04	-.04
Tribal college		4			-.32	-.16*	-.09	-.08	-.01
Low selectivity non-Indian college		4			.11	.05	.03	.02	.15
High selectivity non-Indian college		4			.33	.18*	.15*	.15*	-.08
A.I. way of life		2			-.31	-.07	-.03	-.02	-.0
Non-Ind way of life		2			.08	.00	-.01	-.05	-.04
Success A.I. way of life		2			-.16	.02	.04	.03	.02
Zimmerman identity scale		2			-.27	.00	.02	.04	.02

Variable	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
Blood quantum	-.28**	-.27**	-.22**	-.20*	-.17*	-.16*	-.16*	-.16*
Income	.15*	.16*	.14*	.14*	.15*	.14*	.13*	.13*
Success in Non Indian way of life	.14*	.15*	.12*	.12*	.12*	.12*	.12*	.10
Selectivity	.20*	.18*	.16*	.16*	.13*	.15*	.14*	.13*
BIA College	-.14*	-.13*	-.15*	-.16*	- 16*	-.19**	-.19**	-.18**
Time Spent in Classes	.18**	.18**	.15*	.15*	.15*	.16*	.15*	.15*
Knowledge of particular filed	.21**	.18*	.18*	.23**	.22**	.25**	.24**	.25**
Tolerance of people diff. beliefs	-.07	-.09	-.15*	-.15*	-.15*	-.14*	-.15*	-.17*
Opportunity to attend films/ concerts	.14*	.14*	.14*	.14*	.14*	.16*	.13*	.12*
Satisfaction with lab facilities	-.09	-.10	-.14*	-.13*	-.15*	-.15*	-.17*	-.17*
Oppty. to discuss classwork with profs.	.15*	.14*	.12*	.13*	.11*	.13*	.13*	.13*
Satis. with humanities courses	.11*	.11*	.11*	.14*	.12*	.12*	.11*	.11*

Variables not in the Equation

	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step12
Tribal membership	-.04	-.06	-.04	-.05	-.05	-.03	-.03	-.02
Speak language other than English	-.02	.00	.00	-.02	.01	.00	.02	.01
Raised on/near reservation	-.05	-.04	-.02	.00	-.02	-.03	-.03	-.04
Tribal College	-.09	-.07	-.07	-.07	-.04	-.05	-.07	-.07
Low selecrivity non-Indian college	.11	.08	.09	.09	.07	.06	.05	.04
High selectivity non-Indian college	-.10	-.05	-.07	-.07	-.07	-.04	.00	.02
A.I. way of life	.00	.00	-.01	.00	.00	.00	.00	-.03
Non-Ind. way of life	-.05	-.05	-.05	-.03	-.03	-.02	-.02	-.03
Success A.I. way of life	.02	.00	-.02	-.03	-.02	-.01	.00	-.02
Zimmerman identity scale	.01	.00	.00	.02	.02	.03	.03	0.02

Appendix E

Table of Step-By-Step Standardized Regression Coefficients

Zimmerman Identity Scale

Appendix E. Zimmerman Identity Scale

Variable	Step	Block	R	Rsq	r	Step 1	Step 2	Step 3	Step 4
Blood quantum	1	1	.52	.32	.56	.56**	.53**	.39**	.39**
Age	2	1	.58	.33	.26	.14**	.14**	.12*	.13*
Tribal membership	3	2	.60	.36	.51	.23**	.21**	.21**	.20**
Raised by adoptive parents	4	2	.61	.37	-.12	-.11*	.13*	-.12*	-.11*
Speak other language at home	5	2	.61	.38	.36	.09	.10*	.11*	.10*
Mother's educational attainment	6	2	.62	.39	-.16	.04	.10*	.09	.10*
Went to coll. to prove to others	7	3	.64	.41	.31	.16**	.16**	.15**	.15**
Went to coll. to transfer to 4 year	8	3	.64	.42	.42	.17**	.17**	.14**	.13*
Participated in Indian activities	9	5	.74	.55	.62	.47**	.43**	.44**	.44**
Change in identity as Indian person	10	5	.77	.60	.58	.43**	.41**	.40**	.39**
Importance of tribal customs	11	5	.79	.63	.65	.49**	.47**	.45**	.45**
Participated ndian relig. activities	12	5	.80	.64	.62	.46**	.44**	.43**	.42**
Change in job related skills	13	5	.81	.65	-.14	-.03	-.03	-.03	-.02
Satisfaction Campus Health Servs.	14	5	.81	.66	-.12	-.09*	-.09*	-.11*	-.10*
Change in commitment to Indians	15	5	.81	.67	.53	.41**	.40**	.38**	.37**
Satisfied faculty Ind. perspective	16	5	.82	.67	.18	.03	.01	.00	.00
Satisfied with lab facilities	17	5	.82	.68	-.02	.03	.02	.03	.03
Time working for pay	18	5	.82	.68	-.12	-.06	-.06	-.04	-.04
Felt discrminiation from students	19	5	.83	.69	.26	.21**	.22**	.23**	.23**
Importance of graduating college	20	5	.83	.69	.00	-.02	.00	.00	.00
Got intended degree or higher	21	6	.83	70	.05	.05	.04	.05	.05
Selected Variables not In Equation									
Raised on reservation		2			.42	.14	.13	.12	.10
Income		2			-.33	-.08	-.05	-.05	-.06
Degree aspiration		2			-.23	-.05	-.02	.00	.00
Selectivity		4			-.21	.00	.02	.06	.06
Tribal college		4			.34	.13	.08	.07	.07
BIA college		4			.16	.02	.04	.01	.01
Low selectivity non-Indian college		4			-.23	-.10	-.08	-.08	-.07
High selectivity non-Indian college		4			-.29	-.06	-.03	.01	.00

Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12	Step 13	Step 14	Step 15
.32**	.36**	.34**	.30**	.22**	.22**	.18**	.17**	.16*	.15*	.16*
.13*	.18*	.17**	.17**	.08*	.07	.04	.04	.04	.04	.03
.42**	.20**	.18*	.16*	.11*	.07	.04	.04	.03	.04	.03
-.10*	-.10*	-.11*	-.10*	-.09*	-.06	-.05	-.05	-.04	-.04	-.03
.10*	.13*	.11*	.11*	.05	.00	.00	-.01	-.02	-.03	-.02
.12*	.12*	.12*	.13*	.09*	.08*	.08*	.09*	.10*	.09*	.07*
.14**	.14*	.14**	.13*	.10*	.07	.07*	.07*	.08*	.08*	.07*
.13*	.13*	.11*	.12*	.09*	.06	.03	.02	.02	.02	.01
.43**	.43**	.42**	.41**	.41**	.34**	.25**	.16**	.17**	.17**	.16*
.39**	.38**	.36**	.36**	.26**	.26**	.23**	.23**	.25**	.25**	.17**
.44**	.44**	.43**	.42**	.28**	.25**	.25**	.22**	.21**	.22**	.21**
.42**	.41**	.41**	.40**	.22**	.21**	.16*	.16*	.17	.16**	.15*
-.02	-.03	-.04	-.04	-.08*	-.11*	-.10*	-.11*	-.11*	-.11*	-.12*
-.10*	-.09*	-.10*	-.09*	-.09*	-.10*	-.10*	-.09*	-.10*	-.10*	-.10*
.37**	.36**	.35**	.34**	.23**	.14*	.11*	.11*	.12*	.12*	.13*
-.01	-.01	-.02	-.02	-.08*	-.09*	-.10*	-.11*	-.11*	-.08*	-.08*
.03	.03	.03	.03	.02	.01	.04	.03	.04	.07*	.06*
-.04	-.05	-.05	-.05	-.06	-.05	-.06*	-.07*	-.06	-.05	-.07*
.22**	.21**	.20**	.19**	.11*	-.09*	.09*	.07*	.07*	.07*	.07*
-.01	-03	-.05	-.06	-.07	-.07*	-.07*	-.07*	-.06*	-.06	-.07*
.05	.06	.04	.06	-.08*	.07*	.07	.07*	.08*	.07*	.07*
Selected Variables not in the Equation										
.08	.09	.07	.06	.00	-.01	-.03	-.04	-.05	-.05	-.05
-.05	-.08	-.08	-.07	-.05	-.04	-.03	-.03	-.03	-.03	-.03
.00	-.01	.00	.00	-.03	-.02	.00	.00	.00	.00	.00
.07	.06	.05	.08	.05	.06	.06	.06	.05	.05	.04
.07	.07	.08	.06	.05	.06	.02	.03	.01	.00	.00
.00	.01	.00	-.01	-.03	-.04	-.04	-.04	-.03	-.03	-.03
-.07	-.07	.06	-.05	-.02	-.03	.00	.00	.00	.00	.00
.00	.00	.00	.02	.01	.01	.02	.02	.02	.03	.02

Step 16	Step 17	Step 18	Step 19	Step 20	Step 21
.16*	.16*	.16*	.15*	.16**	.17**
.04	.04	.04	.04	.04	.04
.04	.05	.04	.05	.04	.04
-.04	-.03	-.04	-.03	-.04	-.04
-.01	-.01	-.01	.00	.00	.00
.07*	.08*	.07*	.07*	.08*	.09*
.07*	.07*	.07*	.07*	.08*	.07*
.02	.02	.02	.01	.02	.03
.16*	.16*	.15*	.14*	.15*	.15*
.18**	.18**	.17**	.16**	.16*	.16**
.21**	.22**	.23**	.23**	.23**	.22**
.16**	.16**	.17**	.15*	.15*	.16**
-.12**	-.12**	-.11**	-.11**	-.11**	-.11**
-.08*	-.10*	-.10*	-.10*	-.10*	-.09*
.12**	.11*	.13*	.12*	.12*	.12*
-.08*	-.09*	-.09*	-.10*	-.08*	-.09*
.07*	.07*	.07*	.08*	.08*	.08*
-.07*	-.07*	-.07*	-.07*	-.07*	-.06*
.06*	.07*	.07*	.07*	.07*	.06*
-.06*	-.06*	-.06*	-.07*	-.07*	-.07*
.07*	.07*	.06*	.05	.06	.06
Selected Variables not in the Equation					
-.04	-.04	-.03	-.03	-.03	-.03
-.04	-.04	-.04	-.04	-.04	-.03
-.01	-.01	-.01	-.01	.00	.01
.04	.03	.01	.01	.01	.02
.02	.02	.03	.04	.04	.03
.03	-.02	-.02	-.02	-.02	-.02
.00	.00	.00	.00	.00	.00
.01	.00	-.01	-.02	-.02	.00

Appendix F

Means, Standard Deviations, Ns by Institutional Control

Appendix F: Means, Standard Deviations, Ns by Institutional Control

Variable Name	All Mean Std Dev N	Tribal Mean Std Dev N	BIA Mean Std Dev N	Non-Indian Mean Std Dev N
Background/Entering Characteristics				
Age	28.8 8.11 496	34.03 10.73 167	27.66 3.88 83	25.68 4.58 246
Blood Quantum (1=1/16 or less, 6=full blood)	3.98 1.81 464	4.99 1.25 157	5.07 1.13 80	2.90 1.69 227
Number of Dependent Children in 1993	.76 1.47 397	1.46 1.82 131	.54 1.06 67	.37 1.13 199
Degree Aspiration in 1993 1=None, 2=GED, 3=Voc/Cert, 4=AA, 5=BA, 6=MA, 7=Ph.D, MD, J.D)	4.86 1.41 496	4.23 1.42 167	4.11 1.35 83	5.55 1.06 246
Fathers Education level in 1993 (1=grade school or less, 6=Graduate/professional Degree)	3.41 1.4 496	2.89 1.26 167	3.11 1.31 83	3.86 1.37 246
Mothers Education level in 1993 (1=grade school or less, 6= Graduate/professional Degree)	3.58 1.32 496	3.10 1.38 167	3.33 1.28 83	3.98 1.17 246
High School GPA	3.16 .7 496	3.00 .84 167	2.93 .71 83	3.36 .52 246
Income in 1993 (1=less than $6,000/year, 14=$200,000/year)	5.43 3.19 496	3.58 2.48 167	4.28 2.84 83	7.08 2.86 246
Miles you live form your college (1=5 miles or less, 6=251 miles or less)	3.45 1.8 496	2.52 1.33 167	4.25 1.88 83	3.82 1.78 246
Would have attended another college of this one did not exist (1=definitley not, 4=Definitely yes)	3.48 .95 457	3.10 1.03 148	3.37 1.15 75	3.75 .72 234
Area in which you were primarily raised (1=urban, 2=suburban, 3=rural, 4=reservation/reserve/rancheria	3.06 1.10 464	3.68 .77 158	3.25 1.20 80	2.56 1.03 226
TALENT/SKILL DEVELOPMENT (1=Much Weaker, 5=Much Stronger)				
Tolerance of different beliefs	4.07 .81 438	4.02 .83 149	4.00 .85 73	4.12 .79 216
Acceptance of Different Races	4.09 .85 436	4.02 .88 147	4.11 .83 75	4.14 .83 214
Confidence in Academic Ability	4.16 .89 436	4.09 .89 145	4.14 .86 76	4.22 .90 217

Writing Skills	4.16 .87 435	4.03 .90 145	4.04 .83 74	4.30 .84 216
Public Speaking Ability	4.03 .87 456	3.81 1.01 150	3.89 .83 76	4.22 .73 230
Competativeness	3.78 .87 432	3.75 .88 146	4.00 .77 69	3.72 .89 217
Ability to Work Coorperatively	4.14 .75 437	4.11 .81 146	4.28 63 75	4.11 .74 216
Math Skills	3.69 .89 440	3.74 .89 141	3.78 .77 77	3.62 .93 222
Reading Skills	3.90 .80 447	3.81 .83 149	3.84 .76 77	3.98 .78 221
Cultural Knowledge of own Tribe	3.68 .83 439	3.91 .83 143	3.94 .83 77	3.43 .77 219
Ability to Influence Others	3.98 .76 429	3.92 .77 144	3.97 .87 73	4.01 .71 212
Cultural Knowledge of Others Tribes	3.61 .83 442	3.61 .90 149	3.79 .83 73	3.55 .78 220
Identity as an Indian Person	3.80 .91 438	4.10 .86 147	4.13 .89 72	3.50 .85 219
Commitment to Contribute to your Tribe	3.60 .90 434	3.83 .89 153	3.81 .92 70	3.37 .85 211
Commitment to American Indians in General	3.81 .87 427	4.03 .84 137	4.00 .81 71	3.60 .87 219
General Knowledge	4.45 .72 439	4.23 .81 143	4.34 .81 76	4.62 .56 220
Problem Solving Skills	4.22 .73 435	3.95 .74 147	4.01 .72 72	4.46 .65 216
Knowledge of a Particular Field	4.39 .73 430	4.09 .77 145	4.13 .81 71	4.69 .54 214
Ability to Think Critically	4.32 .73 446	4.09 .80 150	4.18 .66 72	4.51 .65 224
Job Related Skills	4.31 .77 435	4.11 .90 147	4.24 .75 70	4.46 .63 218

Religious Beliefs	3.60 .95 448	3.62 .84 149	3.67 .94 73	3.57 1.01 226
Leadership Skills	4.09 .80 445	3.94 .87 148	4.04 .83 78	4.21 .71 219
Ability to work Independently	4.35 .74 438	4.29 .78 149	4.39 .67 70	4.39 .72 219
Interpersonal Skills	4.20 .77 434	4.11 .81 138	4.04 .72 75	4.31 .75 221
IDENTITY MEASURES				
Zimmerman Identity Scale	25.86 6.54 496	28.99 5.11 167	28.48 5.25 83	22.86 6.44 246
Importance of following tribal customs (1=not important, 3=very important)	2.16 .8 443	2.61 .54 152	2.49 .64 76	1.73 .77 215
Importance of seeing a medicine man when sick (1=not important, 3=very important)	1.74 .82 422	2.16 .80 148	1.94 .81 67	1.37 .66 207
Importance of being successful in you job (1= not at all, 4= a-lot)	2.84 .40 425	2.82 .39 144	2.77 .49 70	2.87 .38 211
Importance of getting best job possible (1=not important, 3=very important)	2.70 .54 407	2.74 .49 135	2.79 .48 67	2.63 .59 205
Importance of living close to family (1=not important, 3=very important)	2.52 .63 429	2.61 .60 148	2.49 .66 69	2.46 .63 212
Importance of attending college (1=not important, 3=very important)	2.75 .49 422	2.68 .53 139	2.66 .56 71	2.82 .43 212
Importance of graduating from college (1=not important, 3=very important)	2.81 .46 423	2.79 .49 140	2.73 .50 74	2.85 .42 209
How much do you live an American Indian way of life (1= not at all, 4= a-lot)	2.51 1.15 496	3.13 .96 167	3.00 1.04 83	1.93 1.01 246
How much do you live a non-Indian way of life (1= not at all, 4= a-lot)	3.02 1.25 496	2.72 1.19 167	2.92 1.14 83	3.25 1.28 246
Are you a success in the Non-Indian way of life (1= not at all, 4= a-lot)	2.71 1.22 496	2.46 .77 124	2.71 1.12 83	2.87 1.27 246
Are you a success in the American Indian way of life (1= not at all, 4= a-lot)	2.27 1.21 496	2.69 1.07 167	2.52 1.24 83	1.89 1.18 246

REASONS FOR DROPPING/STOPPING OUT OF COLLEGE (1=not important, 3= very important)				
Reconsider goals	2.21 .82 284	2.08 .83 108	2.20 .82 60	2.34 .80 116
Academic difficulty	1.78 .79 279	1.72 .77 106	1.83 .74 60	1.81 .83 113
Family responsibility	.96 .87 284	2.21 .86 109	1.78 .80 60	1.81 .87 115
Tired of being student	1.39 .67 281	1.41 .70 109	1.38 .62 58	1.37 .67 114
Money problems	2.03 .87 282	2.18 .87 109	2.03 .83 59	1.89 .87 114
Too few courses offered	1.49 .73 277	1.63 .80 105	1.63 .74 59	1.28 .60 113
Had a child	1.49 .83 280	1.77 .94 106	1.47 .81 60	1.24 .64 114
Transportation problems	1.53 .76 282	1.68 .82 107	1.67 .80 60	1.32 .61 115
Family death/hardship	1.60 .83 277	1.57 .81 104	1.63 .84 60	1.62 .86 113
Changed career plans	1.98 .82 282	1.86 .80 108	2.07 .81 59	2.03 .84 115
Wanted more practical experience	1.94 .83 280	1.98 .84 108	2.12 .77 58	1.80 .82 114
Didn't fit in	1.30 .60 283	1.19 .44 108	1.36 .69 59	1.38 .67 116
Wanted to go to a school with a better reputation	1.43 .71 281	1.42 .71 107	1.58 .77 59	1.37 .68 115
Was bored with coursework	1.41 .67 280	1.44 .66 107	1.51 .75 59	1.34 .62 114
Wanted a better social life	1.46 .70 281	1.48 .73 107	1.44 .65 59	1.44 .70 115
Wanted to be loser to home	1.49 .75 283	1.41 .67 107	1.47 .72 60	1.57 .83 116

Job Offer	1.53 .78 281	1.58 .78 106	1.58 .79 60	1.44 .77 115
ACTIVITIES IN THE PAST YEAR (1=never, 4=often)				
Socialized diff rac	3.59 .67 468	3.41 .80 159	3.55 .71 78	3.73 .52 231
Felt lonly/homesick	2.14 .97 452	2.12 1.03 153	1.99 .92 76	2.21 .95 223
Felt overwhelmed	2.73 .94 454	2.58 .99 157	2.44 .96 73	2.93 .85 224
Felt depressed	2.45 .97 449	2.50 1.03 150	2.07 1.02 74	2.54 .89 225
Felt discriminated against by a student due to race	1.62 .82 439	1.56 .79 150	1.66 .85 70	1.65 .84 219
Felt discriminated against by faculty due to race	1.51 .80 444	1.58 .82 150	1.53 .85 74	1.45 .77 220
Participated in Indian religious activities	2.13 1.10 450	2.53 1.03 150	2.49 1.11 74	1.74 1.01 226
Participated in Indian cultural activities	2.50 1.09 454	2.91 .95 150	2.79 1.00 177	2.13 1.08 227
REASONS FOR GOING TO COLLEGE (1= not important, 3=very important)				
Parents wanted me to go	2.23 .78 476	2.10 .85 154	2.28 .75 81	2.29 .74 241
Prove to other I could do it	2.19 .84 480	2.22 .82 156	2.49 .81 80	2.07 .85 244
Transfer to a four year college	1.88 .88 469	2.31 .75 155	2.41 .67 80	1.41 .76 234
Had nothing better to do	1.32 .63 474	1.40 .67 154	1.47 .75 78	1.22 .54 242
To prepare for graduate school	2.13 .80 472	2.11 .78 156	2.08 .76 76	2.15 .82 240
To become a more cultured person	2.41 .72 479	2.32 .76 158	2.37 .63 78	2.47 .71 243
Mentor encouraged me to go	1.66 .79 470	1.74 .83 157	1.71 .75 75	1.58 .78 238

Prove to myself I could do it	2.56 .69 481	2.67 .60 159	2.76 .54 79	2.42 .76 243
Earn a degree	2.86 .42 485	2.82 .49 160	2.84 .40 80	2.89 .38 245
To play college level sports	1.28 .58 471	1.21 .51 155	1.46 .69 79	1.26 .58 237
Get away home	1.69 .78 478	1.43 .68 156	2.07 .83 81	1.72 .77 241
Could not find a job	1.60 .81 472	1.92 .88 156	1.95 .88 79	1.26 .57 237
To get a better job	2.71 .60 484	2.73 .56 159	2.80 .54 80	2.67 .65 245
To update job skills	2.14 .86 474	2.45 .75 156	2.32 .79 79	1.89 .88 239
To make more money	2.62 .61 484	2.62 .59 160	2.63 .62 81	2.63 .63 243
To gain an appreciation of ideas	2.55 .62 474	2.48 .64 154	2.55 .62 76	2.60 .60 244
To improve reading/study skills	2.33 .76 482	2.47 .74 159	2.54 .62 79	2.18 .80 244
To learn interesting things	2.71 .52 478	2.67 .55 155	2.68 .47 80	2.74 .51 243
REASONS FOR CHOOSING THIS COLLEGE (1=not important, 3=very important)				
Advice from teachers	2.11 .71 393	2.22 .70 116	2.23 .67 69	2.00 .71 208
Emphasis on tribal culture	1.94 .81 360	2.24 .75 148	2.26 .71 72	1.44 .66 140
Good academic reputation	2.40 .71 445	2.13 .76 142	2.03 .70 66	2.67 .55 237
Advice from friend	2.02 .73 400	2.00 .76 130	2.00 .80 63	2.05 .69 207
Recruited by athletics department	1.42 .70 171	1.29 .62 48	1.47 .72 32	1.46 .73 91
Recruited college rep	1.64 .78 214	1.37 .65 54	1.42 .70 26	1.78 .81 134

Graduates get into good schools	2.06 .80 364	1.86 .77 100	2.16 .76 56	2.13 .81 208
Graduates get good jobs	2.45 .71 434	2.31 .76 132	2.46 .65 69	2.53 .68 233
Not accepted elsewhere	1.38 .68 157	1.44 .73 66	1.64 .78 28	1.19 .53 63
Size of college	2.07 .78 416	1.94 .84 127	1.86 .75 59	2.20 .73 230
Special programs offered	2.16 .80 402	2.06 .85 126	2.27 .73 60	2.19 .79 216
Advice from teacher	1.96 .74 363	2.09 .77 108	2.05 .72 56	1.86 .72 199
Advise from counselor	1.82 .80 319	1.89 .86 84	2.16 .73 51	1.70 .76 184
Low tuition	2.12 .79 377	2.24 .74 118	2.34 .74 70	1.96 .81 189
College tribally controlled	1.96 .85 306	2.26 .8 141	2.30 .73 76	1.20 .46 89
Close to home	2.12 .80 411	2.51 .67 152	1.75 .82 55	1.94 .78 204
Large number of Indian students	1.78 .84 365	2.10 .82 143	2.09 .85 74	1.32 .62 148
Financial aid offer	2.59 .65 432	2.64 .57 146	2.48 .67 63	2.58 .70 223
Large number of Indian faculty	1.63 .77 351	1.89 .80 139	1.97 .76 73	1.19 .48 139
SATISFATION WITH COLLEGE (1=very dissatisfied, 4=very satisfied)				
Satisfaction with sciencemath courses	3.04 .68 412	3.09 .60 136	2.91 .61 69	3.05 .74 207
Opportunity to discuss coursework with professors outside of class	3.16 .74 394	3.13 .64 128	2.91 .76 65	3.26 .77 201
Opportunity to participate in activities	3.20 .68 359	3.15 .60 113	3.05 .67 61	3.28 .73 185

Campus social life	3.02 .78 389	3.06 .60 119	3.15 .73 66	2.96 .88 204
Tutorial help	3.05 .65 326	3.08 .64 113	2.98 .76 61	3.06 .61 152
Academic advising	2.94 .78 391	3.03 .74 124	2.99 .78 68	2.87 .81 199
Career counseling	2.88 .81 373	2.99 .79 126	2.97 .80 64	2.78 .82 183
Personal counseling	2.91 .77 301	2.96 .82 105	2.91 .74 57	2.88 .76 139
Student housing	2.80 .84 286	2.55 .87 60	2.69 .98 58	2.93 .75 168
Financial aid	3.06 .80 389	3.10 .79 134	3.05 .81 57	3.04 .81 198
Amount contact with faculty	3.10 .70 394	3.04 .68 134	2.97 .65 58	3.18 .72 202
Humanities courses	3.18 .57 373	3.09 .48 117	2.86 .51 59	3.34 .59 197
Opportunities to attend films and concerts	3.00 .79 301	2.70 .94 76	2.94 .72 53	3.16 .70 172
Job placement services	2.76 .85 284	2.67 .89 82	3.07 .68 46	2.72 .86 156
Campus health services	2.93 .71 299	2.67 .88 60	3.02 .63 64	2.98 .66 175
Class size	3.23 .61 416	3.24 .59 134	3.21 .48 68	3.23 .66 214
Interaction with students	3.24 .61 418	3.23 .63 139	3.17 .54 70	3.26 .63 209
Ability to find a faculty mentor	3.12 .68 379	3.06 .64 125	3.06 .67 63	3.17 .71 191
Diversity of faculty	2.95 .66 375	2.99 .67 114	2.97 .52 61	2.93 .70 200
Leadership opportunities	3.08 .61 360	3.09 .60 110	3.03 .58 60	3.09 .63 190

Overall college experience	3.17 .71 408	3.14 .71 132	3.10 .62 69	3.21 .73 207
Opportunity to take American Indian culture classes	2.96 .90 338	3.38 .66 128	3.23 .69 56	2.51 .93 154
Social science classes	3.16 .56 360	3.08 .53 110	3.02 .42 53	3.25 .59 197
Faculty offer Indian perspective	2.84 .94 334	3.31 .75 124	3.02 .74 57	2.39 .95 153
Child care facilities	2.54 .96 99	2.63 1.00 56	2.27 .70 15	2.50 1.00 28
Internships/applied learning opportunities	2.96 .81 270	2.96 .72 84	2.93 .83 43	2.97 .86 143
Courses in your major	3.34 .73 419	3.17 .74 133	3.18 .72 71	3.50 .68 215
Relevance of coursework to everyday life	3.03 .67 393	3.12 .61 122	2.91 .60 66	3.01 .72 205
Overall quality of instruction	3.19 .65 430	3.18 .60 142	3.01 .58 70	3.26 .69 218
Lab facilities	3.08 .67 378	3.03 .62 122	2.77 .79 65	3.22 .62 191
Library facilities	3.20 .72 424	3.12 .77 139	2.99 .70 69	3.32 .66 216
Computer facilities	3.22 .73 397	3.23 .77 124	3.08 .73 66	3.27 .70 207
Would you choose this college over again (1=definitley not, 4=definitely yea)	3.09 .94 455	3.17 .90 149	3.03 .95 76	3.07 .97 230
ACTIVITIES IN A TYPICAL WEEK DURING PAST YEAR (1=none, 6=51 or more hours per week)				
Socializing with friends	3.20 1.29 442	3.09 1.38 148	3.20 1.36 75	3.28 1.21 219
Relig or spiritual meetings	1.82 1.03 424	2.00 1.27 139	1.63 .75 68	1.76 .92 217
Hobbies	2.47 1.05 437	2.63 1.23 140	2.47 1.19 72	2.37 .87 225

Classes/labs	2.45 1.55 446	2.16 1.52 148	2.14 1.29 73	2.74 1.59 225
Studying/homework	2.37 1.40 435	2.07 1.26 146	2.30 1.34 73	2.61 1.48 216
American Indian Community Meetings	1.41 .84 425	1.60 .99 146	1.63 .98 64	1.23 .62 215
Exercising/sports	2.54 1.15 436	2.43 1.14 141	2.62 1.41 76	2.59 1.05 219
Partying	2.09 1.20 437	1.99 1.40 146	2.39 1.27 75	2.06 1.00 216
Reading for pleasure	2.46 1.17 438	2.61 1.28 148	2.19 1.09 73	2.44 1.11 217
Volunteer work	1.85 1.10 426	1.96 1.20 143	1.62 .98 73	1.87 1.05 210
Working for pay	4.12 1.68 444	3.99 1.78 150	3.69 1.77 72	4.35 1.54 222
Clubs or groups	1.77 1.04 436	1.71 1.05 143	1.74 .97 70	1.82 1.06 223
Watching	2.87 1.21 442	3.05 1.22 150	2.74 1.15 74	2.80 1.21 218
Commuting	2.53 1.37 442	2.79 1.51 149	2.49 1.45 74	2.37 1.21 219
OUTCOMES				
Highest Degree held in 1999 (1=none, 2=GED, 3=Voc.Cert.,4=AA, 5=BA, 6=MA, 7=Ph.D or other advanced degree)	3.51 1.60 468	2.96 1.46 155	2.74 1.09 81	4.14 1.58 232

REFERENCES

American Indian Higher Education Consortium and the Institute for Higher Education Policy. (1999) Tribal Colleges an Introduction. Washington DC.

American Indian Studies Center. *American Indian Studies Center Annual Report, 1988-1989*. Los Angeles: University of California, Los Angeles, 1989.

Allen, Walter, R. (1985). Black students, White campus: Structural, Interpersonal, and psychological correlates of success. Journal of Negro Education. 54(2), 134-147.

Alwin, Duane. (1974). College effects on the educational and occupational attainments. American Sociological Review *39*, 210-23.

Astin, A.W. (1975). Preventing Students from Dropping Out. San Francisco, CA: Jossey-Bass.

Astin, A.W. (1977). Four Critical Years. San Francisco, CA: Jossey-Bass.

Astin, A. W. (1982). Minorities in American Higher Education. San Francisco, CA: Jossey-Bass.

Astin, A.W. (1985). Achieving Educational Excellence. San Francisco, CA: Jossey-Bass.

Astin, A.W. (1991). Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education. New York: Macmillan Publishing Company.

Astin, A.W. (1993). What Matters in College? San Francisco, CA: Jossey-Bass Publishing.

Astin, A.W., Tsui, L., and Avalos, J. (1996). Degree Attainment Rates at American Colleges and Universities: Effects of race, gender, and institutional type. Los Angeles: Higher Education Research Institute, UCLA.

Astin, A. W. (1996). The American Freshman: National Norms for Fall 1996. Los Angeles, Higher Education Research Institute, UCLA.

Badwound, E. (1990). *Leadership and American Indian values: The tribal college dilemma.* Unpublished doctoral dissertation, The Pennsylvania State University, University Park, PA.

Belgarde, Larry. (1994). Indian Colleges: A Means to Construct a Viable Indian Identity or a Capitulation to the Dominant Society?. Paper presented at the Annual meeting of the American Education Research Association. (New Orleans, LA, April 4-8 1994) (ERIC # ED 368-536).

Bender, L. W. (Ed.). (1990). Spotlight on the transfer function: A national study of state policies and practices. Washington, DC: American Association of Community and Junior Colleges.

Bers, T., and Smith, K. (1987). College choice and the nontraditional student. Community College Review, 151(1), 39-45.

Birdsell, D. (1984). Minorities in higher education. Washington, DC: American Council on Education.

Bourdieu, Pierre. (1973). Cultural reproduction and social reproduction. In Richard Brown (Ed.), Knowledge, Education and Cultural Change. (Reprinted in (Ed.),

Jerome Karabel and A.H. Hasley, *Power and Ideology in Education*. New York: Oxford University Press. 1977.

Bourdieu, Pierre and Jean-Claude Passeron. (1977). Reproduction in education, society and culture. London: Sage Publications.

Bowker, A. (1993). Sisters in the blood: The education of women in Native America. Office of Educational Research and Improvement, Washington, DC. (ERIC # ED 363-486)

Boyer, Ernest L. (1987). College: The Undergraduate Experience in America. The Carnegie Foundation for the Advancement of Teaching.

Braun, T. (1983). An analysis of the effects of geographic-demographic factors on college attendance. Research in Higher Education, 19(2), 131-152.

Brown, L., Robinson Kurpius, S. (1997). Psychosocial Factors Influencing Academic Persistence of American Indian College Students. Journal of College Development, 38(1), 3-12.

Cardo, Lorelynn, M. (1994). Development of an instrument measuring valence of ethnicity and perception of discrimination. Journal of Multicultural Counseling and Development. 22: 49-59.

Carnegie Foundation for the Advancement of Teaching. (1989). Tribal Colleges: Shaping the future of Native America. Princeton, New Jersy: Carnegie Foundation for the Advancement of Teaching.

Cohen, Roxan. (1973). Pathways to College: Urban American Indian Community College Students. Dissertation at the University of California, Los Angeles.

Collins, Randall. (1971). Function and conflict theories of educational stratification. American Sociological Review 36,1002-19.

Collins, Randall. (1979). The credentialed society: An historical sociology of education and stratification. New York: Academic Press.

Christensen, R.A., and Demmert. (1978). The education of Indians and the mandate of history. In Thompson, T. (Ed.). The schooling of Native America. American Association of Colleges for Teacher Education. Washington, D.C.

Dolman, G., and Kaufman, N.S. (1984). Minorities in higher education: The changing Southwest (Arizona). Boulder, CO: Western Interstate Commission for Higher Education.

Fries, J.E. (1987). The American Indian in higher education, 1975-76 to 1984-85. Washington, DC: Center for Educational Statistics.

Garrett, J.T, and Garrett, Michael, W. (1994). The path of good medicine: Understanding and counseling Native American Indians. *Journal of Multicultural Counseling and Development.* 22:134-144.

Grubb, W.N. (1989). The effects of differentiation on educational attainment: The case of community colleges. The Review of Higher Education, 12(4), 349-474.

Gruber, E., DiClemente, R., Anderson, M., (In press). Risk-taking behavior among Native American adolescents in Minnesota public schools: comparisons with Black and White adolescents.

Hearn, James, C. (1984). The relative role of academic, ascribed, and socioeconomic influences in college destinations. Sociology of Education, 57:22-30.

Hearn, James C. (1991). Academic and non-academic influences on the college destinations of 1980 high school seniors. Sociology of Education. 64(3):158-171.

Helms, James, C. (1986). Expanding racial identity theory to cover counseling process. Journal of counseling Psychology. 33 (1):62-64.

Helms, Janet, E. (1989). Considering some methodological issues in racial identity counseling research. The Counseling Psychologist. 17(2): 227-252.

Hodgkinson, H.L., Outtz, J.H., and Obarakpor, A.M. (1990). The demographics of American Indians: One percent of the people: Fifty percent of the diversity. Washington, D.C.: Institute for Education Leadership.

Hossler, Don, John Braxton and George Coopersmith. (1989). Understanding student college choice. In John C. Smart (Ed.), Higher Education: Handbook of Theory and Research (pp. 231-288)

Hossler, Don, John Bean and Associates. (1990). The strategic management of college enrollments. San Francisco: Jossey-Bass.

Hossler, D. and Stage, F. (1992). Family and high school experience influences on the postsecondary educational plans of ninth-grade students. American Educational Research Journal, 29(2), 425-451.

Johson, Mark, E. and Lashley, Karen, H. (1989). Influence of Native-American's cultural commitment on preferences for counselor ethnicity and expectations about counseling. Journal of Multicultural Counseling and Development. *17:115*-122.

Karabel, Jerome. (1986). Community Colleges and Social Stratification in the 1980's. In (Ed. L. Steven Zwerling). The Community College and its Critics. Jossey-Bass Publishers.

Katus, J. (1980). A follow-up study of Standing Rock Community College graduates. M.S. Thesis, University of North Dakota (Eric # ED 212-320).

Kingston, William and Lional Lewis. (1990). The high-status track. Studies of elite schools and stratification. State University of New York Press.

Ledlow, Susan. (1992). Is cultural discontinuity an adequate explanation for dropping out? Journal of American Indian Education, 31(3): 21-36.

Loo, C.M. and Rolison, G. (1986). Alienation of ethnic minority students at a predominantly white university. Journal of Higher Education, 57, 58-77.

Lutfig, Richard, L. (1982). Effects of schooling on the self-concept of Native American students. The School Counselor. 30(1): 251-260.

Machamer, A. (1998) Along the Red Road. Tribal College Journal. Winter, 1998-1999 pp.38-47.

Mansk, C.F. and David Wise. (1983). College choice in America. Cambridge, Mass.: Harvard University Press.

March, James and Herbert Simon. (1958). Organizations. New York: John Wiley and Sons.

McDonough, P., Trent, J., Antonio, A. (1994). College destination and expectations: A study of three African-American student populations. Paper for the California Postsecondary Education Commission. October, 1994.

McNamara, Patricia P. (1982). American Indians in U.S. Higher Education. Los Angeles: Higher Education Research Institute.

Milliones, Jake. (1980). Construction of a Black consciousness measure: Psychotherapeutic implications. Psychotherapy, theory, research and practice. 17 (2): 175-182.

Mingle, J. (1987). Focus on minorities: Trends in higher education participation and success. Denver, CO: Education Commissions of the States.

Montana Committee for American Indian Higher Education. May 1990. Opening the Montana Pipeline; American Indian Higher Education in the Nineties. (1991). Sacramento, CA. Tribal College Press. Conference coordinated by the Montana Committee for American Indian Higher Education.

Murguia, Edward, Raymond Padilla and Michael Pavel. (1991). Ethnicity and the concept of social integration in Tinto's model of institutional departure. Journal of College Student Development *32:* 43-439.

National Center for Educational Statistics. (1995). Characteristics of American Indian and Alaska Native Education. U.S. Department of Education.

O'Brien, Eileen, M. (1992). American Indians in higher education. Research Briefs 3(3). Washington, D.C. American Council on Education.

Oetting, E.R., and Beauvais, F. (1991). Orthogonal cultural identification theory: The cultural identification of minority adolescents. The International Journal of the Addictions. 25 (5A &6A), 655-685, 1990-1991.

Olivas, M.A. (1979). The dilemma of access: Minorities in two year colleges. Washington, DC: Howard University Press.

Oppelt, N.T. (1984) The tribally controlled colleges in the 1980's: Higher Education's best kept secret. American Indian Culture and Research Journal. 8(4), 27-45.

Oppelt, N.T. (1990). The Tribally Controlled Indian College: The Beginnings of Self-Determination in American Indian Education. Tsaile, Arizona: Navajo Community College Press.

Padilla, Stan. (1992). A Natural Education: Native American Ideas and Thoughts. Book Publishing Company. Summertown, TN. (ED # 363-487)

Paulsen, M. (1990). College choice: Understanding student enrollment behavior. ASHE-ERIC Higher Education Report No. 6. Washington, DC: The George Washington University, School of Education and Human Development.

Pavel, D.M., Colby, A. (1992). American Indians in Higher Education: The community college experience. Office of Educational Research and Improvement. Washington, DC. (ERIC # ED 351-047)

Pavel, D.M., Sanchez, T., Machamer, A.M. (1994) Ethnic fraud, Native peoples, and higher education. Thought Action: The National Education Association Journal. 10(1) 91-100.

Persell, Caroline and Peter Cookson. 1990. Chartering and bartering: Elite education and social reproduction. In William Kingston and Lionel Lewis (Ed.), The High-Status Track. Studies of Elite Schools and Stratification. (pp.25-49). State University of New York Press.

Picus, F.L., and Archer, E. (1989). The false promise of community colleges: Class conflict and vocational education. Harvard Educational Review, 50(3), 332-361.

Phinney, Jean, S. (1990). Ethnic identity in adolescent and adults: Review of research. Psychological Bulletin. 108(3): 499-514.

RAIN! Survey of Self-Identified American Indians at UCLA. Los Angeles: University of California, Los Angeles, 1993.

Risling, Dave. (1995, March 4). Interview with interim President of DQU. Davis, California: D- QU: Conducted by A.M. Machamer.

Rodriguez, Roberto. (1991). Ethnic Fraud A Threat to Affirmative Action? Black Issues in Higher Education. Feb. 1991.

Sanders, Danielle. (1987). Cultural conflicts: An important factor in the academic failures of American Indian students. Journal of Multicultural Counseling and Development. April 81-90.

Smith, Donald, H. (1981). Social and academic environments for black students on white campuses. Journal of Negro Education, 50 (3): 299-306.

St. John, P. (1992). American Indians Hurt by College Admission Abuses. Detroit News and Free Press. April 1992.

Stein, Wayne J. (1992). Tribally controlled colleges: Making good medicine. New York, NY, Peter Lang Publishing.

Szasz, M.C., and Ryan, C. (1988). American Indian Education in History of Indians-Whites, Vol. 4. The Handbook of North American Indians. Smithsonian Institute, Washington, D.C.

Thomas, Gail E. (1979). The influence of ascription, achievement and educational expectations on Black-White postsecondary enrollment. The Sociological Quarterly. 20:209-222.

Thompson, G. (1990). Access Versus Success: The Native American Indian Community College Student. Community/Junior College, 14:239-250.

Tierney, William, G. (1992). An anthropological analysis of student participation in college. Journal of Higher Education 63 (6): 603-618.

Tierney, William G. (1995). Official Encouragement, Institutional Discouragement: Minorities in Academe-The Native American experience. Norwood, New Jersey: Ablex Publishing Corporation.

Tijerina, K., and Biemer, P. (1988). The dance of Indian higher education: One step forward, two steps back. Educational Record, 68 (4)/69(1), 86-93.

Tinto, Vincent. (1987). Leaving College: Rethinking the Causes and Cures of Student Attrition. University of Chicago Press.

Thompson, T. (Ed.)(1978). The schooling of Native America. American association of Colleges for Teacher Education. Washington, D.C.

Unseem, Michael and Jerome Karabel. (1990). Pathways to top corporate management. In William Kingston and Lionel Lewis (Ed.), The High-Status track. Studies of Elite Schools and Stratification. (pp. 175-207). State University of New York Press.

U.S. Congress, Senate Committee on Indian Affairs. Land Grant Status for Certain Indian Colleges. 103rd Session (November 2, 1993) (ERIC # ED 364-392).

Velez, William. (1985). Finishing College: The effects of college type. Sociology of Education. 58:191-200.

Weber, Max. (1920) 1978. Economy and society. Berkley, Ca: University of Californis Press.

Wells, Robert N. (1989) The Native American experience in higher education: Turning around the cycle of failure. Presentation at Minorities in Higher Education conference sponsored by Hofstra University. March 10, 1989.

Wicks, David. (1981). The American Indian Controlled Community College Movement. (ERIC # ED 214-614)

Wright, Bob. (1986). An Assessment of student outcomes at tribally controlled community colleges. Paper presented at the Annual Conference of the National Indian Educational Assessment. (18th Reno, NV. November 21-24, 1986) (ERIC # ED 280-627).

Wright, Bob. (1989). Tribally Controlled Communities Colleges: A student outcomes assessment of associate degree recipients. Community College Review, 18(3): 28-33.

Zwerling, L. (Ed). (1986). The community college and its critics: New directions for community colleges. San Francisco, CA: Jossey-Bass.