Higher Education in Rural America: A Study of Northern Plains American Indian and Non-Indian Attitudes, Aspirations, Expectations, and Perceived Barriers

Marta Albertus Brosz Mohr
South Dakota State University

Follow this and additional works at: https://openprairie.sdstate.edu/etd

Part of the Higher Education Commons, Race and Ethnicity Commons, Rural Sociology Commons, and the Sociology of Culture Commons

Recommended Citation
https://openprairie.sdstate.edu/etd/3682

This Dissertation - Open Access is brought to you for free and open access by Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.
HIGHER EDUCATION IN RURAL AMERICA: A STUDY OF NORTHERN PLAINS AMERICAN INDIAN AND NON-INDIAN ATTITUDES, ASPIRATIONS, EXPECTATIONS, AND PERCEIVED BARRIERS

By

MARTA ALBERTUS BROSZ MOHR

A dissertation submitted in partial fulfillment of the requirements for Doctor of Philosophy South Dakota State University 1997
HIGHER EDUCATION IN RURAL AMERICA: A STUDY OF NORTHERN
PLAINS AMERICAN INDIAN AND NON-INDIAN ATTITUDES, ASPIRATIONS,
EXPECTATIONS, AND PERCEIVED BARRIERS

This dissertation is approved as a creditable and independent
investigation by a candidate for the degree, Doctor of Philosophy, and is
acceptable for meeting the dissertation requirements for this degree.
Acceptance of this dissertation does not imply that the conclusions reached
by the candidate represent the views of the Sociology Department.

Dissertation Advisor

Date

Head, Department of Sociology

Date
Acknowledgements

I would like to thank Donna Hess, Ph.D., for her thoughtful work as advisor to this project and editor of the countless drafts. To Rae, for your “Let’s do it!” energy. To Doris, Karen, Martha, Janet and Myrna, your willing hands, good food and good company were indispensable. To Dr. Satterlee, who stood by me through the thick of it. To Dr. Grant, Dr. Kayongo-Male, Dr. Roberts, and Dr. Ryder, for serving on my committee. To the Board of Directors at Carroll Institute, my colleagues, Barb, Jim and Sherry, and everyone at the office who stopped by to say, “Aren’t you done with that yet?” To Dr. Zimbelman, my professor and mentor. To Arlene Telford Albertus, dear mother, for pertinent insights. Candy, gourmet magician and genius of details, you made the months bearable. To Lala, Josh, Adam, Liz and Jon for giving such rich meaning to life. I will look forward to your own academic adventures. Chad Hoyt Mohr, so close to my heart, so essential and so gracious, thank you always for your generous and thoughtful attention.
Abstract

Higher Education In Rural America: A Study Of Northern Plains American Indian And Non-Indian Attitudes, Aspirations, Expectations, And Perceived Barriers

Marta Albertus Brosz Mohr

9/12/97

This study addresses the need for educational research specific to rural populations of American Indians and their non-Indian neighbors. In order to provide answers to both theoretical and practical questions, a survey was conducted with a random sample of rural residents living within a twenty-five mile radius of a rural, tribal institution of higher education. The structured interviews gathered data regarding attitudes, aspirations, expectations, and perceived barriers. Analyses of the data indicate that this population has strong, positive attitudes toward higher education and aspires to a college education in spite of real and perceived barriers. This study does not support the general consensus that rural residents, especially American Indians, have less positive attitudes, lower aspirations, or lower expectations than their more urban counterparts. The findings support the assumptions of rational choice theory and growth motivation theory. American Indian tribes have maximized the benefits of higher education by developing a tribally-controlled college and university system.
Table of Contents

Abstract ........................................................................................................................i

Chapter I. Introduction ........................................................................................1

  Statement of Research Problem .................................................................8
  Contribution to Knowledge ........................................................................9

Chapter II. Review of Literature ......................................................................11

  Introduction ..............................................................................................11
  Attitudes .................................................................................................11
  Aspirations ...............................................................................................13
  Expectations .............................................................................................14
  Socioeconomic Status and Aspirations ..................................................16
  Race and Aspirations ..............................................................................21
  Gender and Aspirations .........................................................................28
  Valuation of Higher Education .............................................................30
  Barriers to Higher Education .................................................................32
  Summary .....................................................................................................36

Chapter III. Theoretical Framework ................................................................38

  Introduction .............................................................................................38
  Rational Choice Theory ...........................................................................38
  Growth Motivation Theory ......................................................................43
  Chain-of-Response Model ......................................................................47
Propositions and Hypotheses ...................................................51

Chapter IV. Methodology..............................................................54

Introduction..................................................................................54

Geographic Location ...................................................................54

Population ....................................................................................55

Sampling .......................................................................................55

Completion Rate ...........................................................................57

Data Collection Methods ..........................................................58

Data Processing Methods ..........................................................60

Independent Variables ................................................................60

Dependent Variables ....................................................................62

Reliability and Validity ...............................................................64

Null Hypothesis ............................................................................67

Statistical Analysis .......................................................................69

Chi-Square for Independence ....................................................69

Phi Measure of Association .........................................................71

Multiple Regression Analysis .....................................................72

Summary ........................................................................................73

Chapter V. Analyses of Data ..........................................................74

Introduction ..................................................................................74

Demographic Profile of Sample ..................................................74
C. History of Sinte Gleska ........................................ 151
D. Testimony of University President .............................. 158
List of Tables

Table 1. Educational Attainment by Generation ........................................ 19
Table 2. Perceived Barriers to Learning .................................................. 35
Table 3. Alpha Coefficient for Composite Scales ...................................... 66
Table 4. Demographic Profile of Sample ................................................ 74
Table 5. Summary of Population and Sample Comparison ....................... 76
Table 6. Levels of Educational Attainment in Target Area ...................... 77
Table 7. Attitude Item Scores ................................................................. 78
Table 8. Aspirations Item Scores ............................................................. 78
Table 9. Perceived Barriers Item Scores .................................................. 79
Table 10. Attitudes by Educational Attainment ....................................... 80
Table 11. Attitudes by Family Attitudes .................................................. 81
Table 12. Aspirations by Attitudes ........................................................... 82
Table 13. Short-term Expectations by Attitudes ..................................... 83
Table 14. Long-term Expectations by Attitudes ...................................... 84
Table 15. Attitudes by Sex ....................................................................... 85
Table 16. Aspirations by Sex ................................................................. 86
Table 17. Short-term Expectations by Sex .............................................. 87
Table 18. Long-term Expectations by Sex .............................................. 88
Table 19. Attitudes by Race ................................................................. 89
Table 20. Aspirations by Race ............................................................... 90
Table 21. Short-term Expectations by Race.................................91
Table 22. Long-term Expectations by Race.................................92
Table 23. Perceived Barriers by Race........................................92
Table 24. Aspirations by SES.....................................................93
Table 25. Perceived Barriers by SES..........................................94
Table 26. Valuation of Education by SES..................................95
Table 27. Selected Statistics for Multiple Regression...............97
Table 28. Results of Tests of Hypotheses.................................99
List of Figures

Figure 1. Rubenson’s Paradigm of Recruitment.................................15
Figure 2. Growth Motivation Hierarchy .............................................43
Figure 3. Chain-Of-Response Model....................................................47
Figure 4. Determinants of Preference for Higher Education.............115
CHAPTER ONE
INTRODUCTION

Institutions of higher education have historically stood at the gateway to the future. Teaching the next generation to understand the past and preparing them for future cultural and technological opportunities have been the functions of education beyond high school. Higher education represents the spirit of liberal learning. What distinguishes it from vocational training is the process of teaching values such as tolerance, understanding, a love of learning and dedication to free inquiry and free expression (Atwell, 1991). The teaching of such values makes it possible for a society to better manage political, economic, social and spiritual dilemmas. Higher education asserts that there is more to life than earning a living.

Differences in educational values and preferences have contributed to continuous conflict in the history of relations between American Indians and outsiders. The tribal people inhabiting the North American continent prior to the great migration of European immigrants perpetuated their culture by educating children in language, religion, philosophy, ethics, economics and living skills. Hundreds of tribes, representing more than 250 different languages lived in what is now known as the United States of America. Education was provided in an integrated, holistic manner through the family, the community, spiritual elders and tribal leaders.
Szasz (1996: 176) in her summary of education and native people states, “Education is the process by which a culture teaches its ways to ensuing generations.” From the 1500’s forward, native perceptions of education have undergone immense changes, but core precepts have held. Education reinforced the First Americans’ unique economic and spiritual link with the land...”

The educational values of the majority of European immigrants to North America, during the colonial period, were based on western religious ideals with strong Calvinistic undertones. Manifest destiny was an ideology used by people who believed their right to acquire western territories was ordained, even commanded, by God. Their concepts of land ownership and religious superiority guided their approach, in part, to education and interactions with the American Indian tribes (DeYoung, 1991; Theobald, 1995; Szasz, 1996). “Europeans relied on the weapon of education to persuade tribal people that European world views were superior. Viewing adults as less malleable, they saw native children as vessels of change. Children could be molded toward the values of land ownership, individualism and...Christianity, especially if they were removed from their community” (Szasz, 1996: 177).

Tribal people viewed European educational techniques as rigid, aggressive, and compartmentalized. They were not convinced that the benefits of exposing their children to the white man’s education were
worth the costs.

On June 17, 1744, the commissioners from Maryland and Virginia negotiated a treaty with the Indians of the Six Nations at Lancaster, Pennsylvania. The Indians were invited to send boys to William and Mary College. The next day they declined the offer as follows. '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, unable to bear either Cold or Hunger, knew neither how to build a Cabin, take a Deer or kill an Enemy, spoke our language imperfectly, were therefore neither fit for Hunters, Warriors or Counselors, they were totally good for nothing. We are
however not the less oblig'd by your kind Offer, tho' we
decline accepting it; and, to show our grateful Sense of it,
if the Gentleman of Virginia will send us a Dozen of their
Sons, we will take great Care of their Education, instruct
them in all we know, and make Men of them (Drake, 1834: 27).

The US Congress passed the Indian Civilization Fund Act in 1819
to provide funds for the church to educate and convert American Indians
(DeYoung, 1991). This aggressive approach to the subjugation of tribal
people resulted in their near extermination. Disease, warfare, forced relo-
cation and boarding school education destroyed the social and economic
stability Indian people enjoyed prior to the massive immigration from Eu-
rope. More than one-fourth of the treaties between the federal govern-
ment and tribes included mandates for the education of children
(DeYoung, 1991; Szasz, 1996).

Not until the civil rights movements of the 1960's did questions
regarding the ethics of these government educational policies begin to be
taken seriously. The growing resistance to government control of educa-
tion on reservation lands led to the passage of the Indian Education Act
of 1972, the Indian Self-Determination and Education Assistance Act of
1975 and the Tribally Controlled Community College Assistance Act of
1978 (Boyer, 1989; Snipp, 1992; Szasz, 1996).

History has revealed that the fundamental democratic belief in the
inalienable right to the pursuit of life, liberty, and happiness has been applied almost entirely to white men of means. As greater numbers of formerly oppressed subgroups, such as women and minorities, have attained a white man’s education, they have become contenders in the struggle for access to valuable resources and human rights. Ideological shifts in educational policy have resulted in greater access to education. These changes have decreased barriers to social mobility and expanded opportunities. Yet, rural people, especially American Indian people, who aspire to higher education, continue to face barriers of poverty, distance, climate and culture.

Snipp (1992) contends that the historically aggressive federal efforts to subordinate tribal people through enforced education in militaristic boarding schools translated into a resistance to education among Indian people which has led to lagging economic hardship. Rothenberg (1992: 245) observed that the civil rights issues faced by American Indians have evolved in reverse order as compared to other minorities: “Politically, other minorities started with nothing and attempted to obtain a voice in the existing structure. Indians started with everything and have gradually lost much of what they had to an advancing alien civilization...Indian tribes have always been separate political entities interested in maintaining their own institutions and beliefs.”

The efforts of Indian leaders to regain control of the education of
their people led to the establishment of the first tribal college on the Navajo Reservation in 1968. The success of this venture started a movement across Indian country that has changed the structure of access to higher education for rural people. Today there are thirty-one tribal colleges throughout the United States and Canada serving over 17,000 students (Hill, 1994; Thurston, 1995), and tribal colleges are experiencing the fastest growing enrollments in higher education (Bordeaux, 1989; Boyer, 1989; Killacky, 1995; Mcleod, 1994; Pease-Windy Boy, 1991; Wright, 1991). The tribal university located in the target area for this study has awarded over 600 associate, baccalaureate and masters' degrees (Sinte Gleska University Foundation, 1997). In an effort to understand the educational attitudes and aspirations of rural residents who, for the first time, have had the barrier of access removed, this study investigates the rural population living in close proximity to the university.

The study of rural higher education has traditionally been subordinate to the study of urban education issues. In the American system of higher education, the financial health of an institution is directly linked to enrollment, tuition income and government funding. Therefore, forecasting the educational and career aspirations of urban young people, the largest traditional, college-bound cohort, has been the focus
of the majority of empirical research. As demographic projections pointed to a steady decline in high school graduates, researchers also predicted decreases in college enrollment (Trow, 1989). However, these predictions have almost uniformly been proven wrong (Bess, 1991).

Several trends have been identified to explain the continuing increases in college enrollments: 1) the growing enrollment of students over the age of twenty-five; 2) the significant increase in the number of part-time, working students; 3) women enrolling at four times the rate of men; and 4) an eighty-five percent increase in minority enrollment (bid: 10). In order to better understand these trends, researchers have studied the aspirations of nontraditional and minority populations, the aspirations of students as compared to their parents, and the aspirations of rural and urban youth. However, relatively few studies have investigated the aspirations of adults living in rural settings, and even fewer still have investigated the aspirations of American Indian adults living in rural areas.

The people living in the vast reaches of rural America have been conceptualized as homogeneous and provincial; defined simply as "not urban" (Theobald, 1995; Sher, 1977). In his review of educational research, Theobald found that 80% of the research published in the
History of Education Quarterly focused on urban issues (DeYoung, 1991). Gillet-Karam (1995), in her study of nontraditional women and minority students, discovered that institutions of higher education in general have not adequately investigated the needs of people living in rural communities.

Studies have generally focused on ways to facilitate outmigration from rural to urban centers of education or on ways to replicate urban policies through the radical consolidation of rural educational systems (Fitzsimmons & Freedman, 1981; Flora & Christenson, 1991; Sher, 1977). Those concerned with rural education argue that an urban-centered approach to educational issues overlooks the complexities of rural life and the unique characteristics of rural communities.

**Statement of the Research Problem**

This study addresses the need for research specific to rural populations of American Indians and their non-Indian neighbors. The advent of tribal colleges has enhanced access to higher education for both American Indian and non-Indian rural populations. This structural change raises several questions. What attitudes exist regarding higher education among rural Americans? What are the educational aspirations of rural people? Do they perceive continuing barriers of access to higher education? If so, what kinds of barriers?
What impact, if any, has this change in access had on rural residents, especially American Indians?

In addressing these questions, this study has the following objectives: 1) to examine attitudes toward higher education, aspirations for higher education, and expectations for participation; 2) to determine if attitudes, aspirations, and expectations vary by socioeconomic status, sex, or race; 3) to determine if rural residents continue to perceive barriers to attaining higher education; and 4) to determine whether or not the combination of the theory of rational choice and Maslow’s growth motivation theory is useful in explaining the educational attitudes, aspirations, and expectations of rural people.

In order to provide answers to both theoretical and practical questions, a random sample of rural residents was drawn from a population living within a twenty-five mile radius of a tribal university. Structured interviews were conducted to assess educational attitudes, aspirations, expectations, and perceived barriers.

Contribution to Knowledge

Rapidly changing technology is leading to educational possibilities for rural Americans that have yet to be imagined. Gaining insight into the attitudes, hopes, and dreams of rural American Indian and non-Indian people will benefit tribal governments, policymakers, educators,
social service providers, and students, all of whom have an interest in planning for the future of higher education in rural America. Research which adds to the limited body of knowledge concerning the educational aspirations of rural Americans is important. Only when the preferences of rural people are known can future planning be based on their preferences rather than the perceptions of outside "experts."

This study generates data from which theoretical propositions may be drawn and tested concerning the educational attitudes, aspirations, and expectations of rural adults. This research also provides insights into the barriers rural Americans face in attaining their educational goals. By focusing on understanding the values and desires of a sample of American Indian and non-Indian people, this study contributes to the very limited body of knowledge.
CHAPTER TWO
REVIEW OF LITERATURE

Introduction

There is considerable research on the educational aspirations of youth, the attitudes of parents and children toward education, and the barriers to education for women and minorities. However, there are discrepancies between research studies in how variables are defined, how the populations are surveyed, and the use of research methods. This literature review is primarily concerned with studies that are relevant to what is known about attitudes, aspirations, expectations, and perceived barriers to higher education among rural, nontraditional, and minority people.

Attitudes

Studies of educational attitudes generally find a strong relationship between the attitudes of the family and the student. These attitudes have been found to play a significant role in decisions to participate in higher education (Haas, 1992; Hektner, 1995; Mau, 1995; Rubenson, 1977; Wilson, 1992). Haas (1992) found in relation to higher education, the attitudes of parents do affect the aspirations of rural young people. In comparison to urban youth, rural youth feel their parents have a more positive attitude about them taking a full time job, joining the military or attending a vocational school than going to
college.

Rubenson (1977) found that motivation for participation in education is based on one's perception of the educational environment, a perception which may or may not be accurate. Perceptions are the result of an integration of one's interpretation of the values and attitudes of member and reference groups and previous personal experience.

Ajzen and Fishbein (1980) found a relationship between individual attitudes and the attitudes of the reference group in their model of reasoned action. The reasoned action model assumes that behavior is dependent upon intentions. The intention to perform a behavior is determined by one's attitude and one's subjective evaluation of norms. Therefore, if a potential student has an attitude that is favorable toward education, believes significant others also value higher education, believes that going to college is the right thing to do and has determined that the perceived advantages outweigh the opportunity costs, one could predict that the individual will enroll in college.

There is general agreement that attitudes reflect perceptions, feelings and motivations (Bayley, 1992; Haas, 1992; Haller & Virkler (1993); Heath, 1992; Hektner, 1995). It follows then that positive attitudes toward higher education in the family system will influence
attitudes and eventual attainment of post secondary education.

**Aspirations**

Aspirations are generally defined by researchers as strong desires to reach something higher, beyond one's current station. Aspirations reflect an integration of visions of what one would like to become and what one does not want to become (Haas, 1992; Markus & Nurius, 1986, Rokeach, 1975). Aspirations reflect preferences that are not limited by barriers or constraints. Rokeach (1975) in his discussion of human values defines values as instrumental or terminal. Values defined as "instrumental" refer to modes of behavior, such as cleanliness, politeness or kindness. Terminal values are defined as a reflection of what one desires to achieve throughout a lifetime, a chosen end-state.

Since the 1970's, studies have been reporting higher aspirations among young people in America (Walberg, 1989). Fewer students are dropping out of high school in the 1990's than were dropping out in the 1980's. Currently, over fifty percent of high school students intend to go to college (US Dept. of Education, 1995). Cross (1991) found that if students have completed high school, they are more likely to aspire to higher education. The increase in educational aspirations is reflected in the continuing growth of college enrollment (Aslanian, 1993; National Center for Educational Statistics, 1994).
Expectations

Expectations are more pragmatic than aspirations. What a student would like to do and what she really believes will happen may be very different. A high school senior may dream of going to medical school, when she knows her grades and financial resources will likely hold her back. Expectations are more realistic than aspirations because they take into account the barriers and constraints one must face (Chu & Culbertson, 1982; McDiarmid & Kleinfeld, 1982; Mooney & Greenberger, 1978). For the most part, studies which investigate the relationship between educational aspirations and expectations have focused on high school students. However, expectations have emerged as a key factor in research on adult participation in education (Cross, 1991; Rubenson, 1977).

Rubenson's (1977) expectancy-valence model (see Figure 1) explains educational expectations in terms of the interaction between an individual's acquired experience and the individual's perception of the environment. The expectancy portion of the model assumes that the motivation to participate in education is dependent upon the expectation of personal success combined with the expectation that successful participation will lead to positive consequences. For example, if an individual has high self-esteem, good school and work experiences, and is offered an opportunity to enroll in college, her expec-
Figure 1. Rubenson’s Paradigm of Recruitment

Source: Rubenson, 1977, p. 35.

tations are likely to be positive and fairly strong. Her expectations alone may or may not lead to actual enrollment, but if there is also a positive valence associated with the hope of better employment, the chances of enrollment are more likely.

Rubenson’s paradigm, emphasizes the importance of the reference group in shaping the attitudes and influencing the expectations of the individual. “Much of the current thinking about educational participation in the United States assumes that most people are motivated to participate in education and that removing barriers will permit participation...” (Cross, 1991: 147). Rubenson’s model conveys the complex
dynamics of the decision-making process. The position taken for this study, which is supported by the literature, is that attitudes, aspirations, expectations, and perceptions of barriers are influenced by the reference group.

**Socioeconomic Status and Educational Aspirations**

A quarter of America's elementary and secondary students are attending school in rural areas (Haas, 1992). Researchers have established a link between a student's socioeconomic status and educational aspirations. In both rural and urban communities respondents with lower incomes, lower educational attainment and less prestigious jobs report lower educational aspirations (Haller & Virkler, 1993; Marion, Mirochnik, McCaul, & McIntire, 1991, Wilson, 1992; Zimbelman, 1987). Comparisons of the aspirations of rural and urban youth tend to find lower aspirations among young people living in rural settings (Cobb, McIntire & Pratt, 1989; Haas, 1992; Haller & Virkler, 1993; Hektner, 1995; McCaul, 1989; Wright, 1991).

Cobb, McIntire and Pratt (1989) found a statistically significant difference in the aspirations of urban and rural youth. They contend that even though the difference in aspirations may be small, lower aspirations among rural youth create a handicap that makes their rise out of poverty much more difficult. Because educational aspirations represent one of the more crucial determinants of social mobility, there
is some agreement that the lag in the aspirations of rural youth should remain a concern (Cobb, McIntire & Pratt, 1989; Hanson and McIntire, 1989; Ohlendorf and Rafferty, 1982).

However, Haller and Virkler (1993: 170) argue that the difference Cobb et al., found is quite small, and certainly not large enough to be considered a problem. They state: “A statistically significant difference does not indicate significance in any practical sense. It is the interpretations placed on research findings, not the findings themselves, that have practical consequences for rural people.”

Their study reported that half the discrepancy in educational aspirations between rural and urban groups could be explained by socioeconomic status differences and the remaining difference could be explained by slightly disparate occupational aspirations. The data suggest that rural students have much the same occupational aspirations as nonrural students, and if given the same opportunities for information and access, the differences in rural and nonrural aspirations would disappear. They suggest that occupational aspirations may be lower only because adolescents aspire to what they can imagine and rural settings offer limited opportunities for exposure to the variety of professional occupations readily observable in urban settings.

Studies of rural young people and minority young people have reported higher drop out rates and lower expectations about what level
of education they will attain, which may be a function of the social structure and family decision-making process (Hektner, 1995; Lowe and Pinney, 1980; McCaul, 1989; McDiarmid and Kleinfeld, 1983). Haller and Virkler (1993: 171) conclude that increasing occupational aspirations may not be a rational choice for rural communities: "...rural residents could view such [higher education] programs as using their scarce tax dollars to aid the economic development of distant, more advantaged cities."

Anderson and Darkenwald (1979) explain higher education participation rates among lower socioeconomic status (SES) groups in three ways: first, people with low SES have less disposable income for travel, tuition, books, and child care; second, they tend to have jobs that do not require or support continuing education; and, third, they have less access to information about opportunities. However, they also found that the socioeconomic indicators they used to describe adult learners only explained ten percent of the variance in adult participation.

A historic review of educational attainment reveals that, as recently as 1940, only half of the adults in the United States age twenty-five or older had completed elementary school (US Bureau of the Census, 1975: 380). Just after World War II, 2.3 million students were enrolled in eighteen hundred colleges and universities throughout the United States (National Association of State Universities and Land Grant Colleges, (NASULGC), 1996). The passage of the GI Bill created a flood of veterans into higher
education. Then the Soviet Union launched Sputnik in 1957, and there was a government-initiated push to educate the country's "best and brightest" (Edgerton, 1993). The Civil Rights Movement of the 1960's raised the issue of equal opportunity in higher education, which resulted in the creation of additional black institutions of higher education and greater access for minorities to mainstream higher education (Heath, 1992; Karen, 1991). By 1995, more than fourteen million students enrolled in 3,688 institutions of higher education, a $171 billion dollar industry which is the largest and most diversified in the world (NASULGC, 1996).

As shown in Table 1, the rise in educational attainment has continued through the 1990's. Today, eighty-six percent of young people between the ages of twenty-five and twenty-nine have completed four years of high school and twenty-seven percent have completed four or more years of college. For the cohort between the ages of 45 and 49, the

<table>
<thead>
<tr>
<th>Table 1. Educational Attainment by Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>% HS Completion</td>
</tr>
<tr>
<td>Ages: 25 - 29</td>
</tr>
<tr>
<td>Ages: 45 - 49</td>
</tr>
<tr>
<td>Ages: 65+</td>
</tr>
</tbody>
</table>

parent generation, only seventy-seven percent completed four years of high school and twenty-two percent completed four or more years of college (US Dept. of Education, 1995: 72). Only thirty-four percent of the grandparents of the younger cohort completed four years of high school and twelve percent completed four years of college (Froomkin, 1970). In today's world, the majority of adults have completed high school and more than sixty percent will enroll in college (US Dept. of Education, 1995; Cross, 1991).

The significance of the increase in college enrollment demonstrated in these data lies in the well-established research findings that the more education people have, the more education they seem to want and the more likely they are to participate in ongoing learning experiences (Cross, 1991). According to Cross, the increase in educational attainment in this century is the result of the dramatic increase in the number of people completing high school. Children of well-educated parents are more likely to become well-educated, which makes education additive not only for individuals but for entire societies.

Nearly everyone concerned with American higher education has predicted a marked decline in college enrollment, but the predicted decline has not occurred (Bess, 1991). MacBrayne (1995) estimates that by the year 2000, one half the students enrolled in higher educa-
tion will be nontraditional, older, and female. Lower socioeconomic subgroups, which may include women, minorities, and people who work while attending college, account for much of the continuing increases in college enrollment (Astin, 1990; Cross, 1991; Deskins, 1990; Farley & Allen, 1989; Hill, 1994; Heath, 1992; Karen, 1991; MacBrayne, 1995; Solorzano, 1991; Trow, 1989).

**Race and Educational Aspirations**

Wright (1991) points out that even though American Indian students are persistently increasing their level of educational attainment, they are still the least educated ethnic group in the United States. Six percent of the Native population has a college degree compared with twenty-three percent of whites, twelve percent of African Americans and seven percent of Hispanics. He challenges the research community with the fact that research on Indian college students has been virtually nonexistent.

Deskins (1990) reported that between 1976 and 1984, while the total enrollment in higher education increased by 6.5 percent for the population, enrollment for minority subgroups increased 11.8 percent. The National Association of State Universities and Land-Grant Colleges (1996) published enrollment data from 1993 that show 53 percent of those enrolled in college were women, 21 percent were people of color, and 33 percent were over the age of twenty-five. Minority student
enrollment has increased as follows: African American, 30 percent; Hispanic, 141 percent; American Indian, 63 percent; and, Asian, 239 percent. Solorzano (1992) has shown that African American students actually aspire to higher educational levels than white students after controlling for factors such as socioeconomic status.

A recent study by Astin (1992) looked at predictors of degree aspirations after four years of college in a group of senior students and found that important predictors are: 1) high aspirations as freshman; 2) socioeconomic status; 3) level of achievement in high school; 4) level of student-faculty interaction. Being African American is positively related to high degree aspirations. Black students, however, are less likely than white students to complete college, especially in four years, and are less likely to enter graduate school (Heath, 1992). McCaul (1989) found that a higher proportion of rural minority students dropped out than did rural white students.

American Indian students did participate in higher education during colonial times at colleges such as Harvard and Dartmouth, which were established with the mission of bringing higher education to the Indians of North America. But, for the most part, Indian students were separated from white populations (DeYoung, 1991; Theobald, 1995). Following the Civil War, schooling was made available through churches and state common schools. Then the government created
segregated boarding schools for American Indian children. Government boarding schools—whose main purpose was to resocialize American Indians—had the legal right to take Indian children from their homes without parental consent and to place them in institutions (Grobsmith, 1981; Schusky, 1975).

Failed treaties, lack of immunity to European diseases, and the heavy-handed government policies of extermination and assimilation negated much hope of significant Indian participation in mainstream higher education. “Tribal groups resisted missionary efforts and tenaciously clung to their traditional ways...this attitude has characterized the Native response to ‘civilized’ education through the present time” (Wright, 1991: 33). American Indian students continue to be the least represented minority in predominantly white colleges and universities. Wright (1991) found that 40 percent of American Indian college students are choosing to attend rural tribal schools. More recently, Hill (1994) found sixty percent of the Indian higher education cohort attend tribal colleges, where Indian students outnumber non-Indian students four to one.

Given the fact that colleges and universities in the United States were not racially integrated by law until the 1940’s and 50’s, it is not surprising that researchers continue to report limited access to higher education for American Indian students. Their limited access is exacer-
bated by cultural traditions, such as commitments to the family and the tribe (Gillet-Karam, 1995: 48). “As a nation we have been narrow-minded about the privilege inherent in skin color, gender and geography. This has meant that certain groups in society and living in certain geographic areas were afforded more rights than others. And usually it has meant that the burden of reclaiming those rights fell on those who were excluded.”

In 1969, a Congressional report entitled, Indian Education: A National Tragedy-A National Challenge, stated, “…our national policies for educating American Indians are a major failure” (Hirschfelder & Montano, 1993:98). In response, educators posited the hypothesis that the poor achievement of these students is related to the cultural differences of the students and the classroom environment. Since then, the government has slowly passed legislation which gave the control of education for Indian people back to the tribes. In the early 1970’s, President Nixon initiated the Indian Self-Determination and Education Assistance Act. The 1975 Congress enacted this law which provided tribes the authority to assume responsibilities formerly reserved for officials of the Bureau of Indian Affairs. These policies strengthened tribal rights and motivated Indian people to begin organizing to determine their own future (Boyer, 1989; Bordeaux, 1989; Snipp, 1992).

It will take time to overcome the consequences of four centuries of
domination and oppression; nevertheless, tribal governments are rising to the challenge of providing educational opportunities that support Indian values (Pease-Windy Boy, 1991). The literature just cited suggests a general attitude of caution among Indian people regarding public higher education and a propensity to avail themselves of higher education opportunities through tribally controlled schools (Boyer, 1989; Hill, 1995; Walker and Wolf, 1988; Wright, 1991).

According to Karen (1991: 209), research on higher education has largely been conducted at the individual level of analysis which omits the larger demographic patterns that constitute the structure of opportunity for access to higher education and define constraints. Political mobilization among subgroups such as women and blacks, enabled them to increase their group representation in higher education. “This explains why women and blacks, who have politically mobilized, have increased access to higher education and working class poor have not.”

Political mobilization refers to a collective effort to change institutionalized patterns by groups who are excluded from some resource, such as access to higher education. “A key measure of the success of a given mobilization involves the realization of an official status in society’s system of social classification” (ibid: 222). Bourdieu (1984: 480) states that “a group’s presence or absence in official classification depends on its capacity to get itself recognized and admitted and so to win
Brint and Karabel (1989) postulate that the ideological context in the United States whichformulates responses to mobilized groups may focus more on providing the appearance of opportunity than real opportunity. Government officials, at any time, for political reasons, may or may not decide to pay attention to the claims of a particular group. Karen (1991: 227) concludes that the changes in enrollments in higher education for women, blacks, and the working poor have shown a relationship between political mobilization and access to valued resources. "Groups that mobilized made inroads, while groups that did not mobilize appeared to make no such gains."

The formation of the American Indian Higher Education Consortium (AIHEC) is an example of political mobilization among American Indians, which has led to securing recognition and financial support for Indian higher education. The effects of their mobilization efforts were demonstrated when President Clinton signed into law the act to make tribal colleges land-grant institutions with all the rights and privileges therein (Hearing on S. 1345, Equity in Educational Land Grant Status Act of 1993).

Walker and Wolf (1988) determined that self-determination policies have encouraged tribes to take responsibility for the complex decisions which need to be made regarding both human and natural
resources. Tribal officials are sensitive to the need to balance traditional values and technological needs. The Walker and Wolf study concluded that a post-secondary education component on the reservation with a strong cultural enrichment program would benefit both concerns and serve as a foundation which could be shared with pride by the tribe.

Hill (1995), in his investigation of the role of tribal colleges, reports that the student population is predominantly female and Indian, with an average age of twenty-seven. Boyer (1989) also found that most students attending tribal colleges are older, female students. They tend to live within the boundaries of the reservation and are often the first in their family to attend college.

New technologies, such as the internet and interactive video, have enhanced the quality of education available through tribal colleges and have played a part in the revitalization of reservation economies (Ambler, 1994). Most tribal colleges have experienced between a five and ten percent annual growth in student enrollment. "In Montana, seven young tribal colleges served over 2000 Indian students, while the entire Montana University system served only 900 Indian students" (Hill, 1995: 38). "Some may think remaining close to one's culture is shortsighted and limiting, but the renewal of esteem and empowerment for Indian people emerges from their growing pride in their people and
their heritage. In the end, Indian nations only want what they had 150 years ago and what other more powerful nations have been able to defend — the right to decide for themselves what kind of education their people will receive” (Boyer, 1989: 18).

**Gender and Educational Aspirations**

Trow (1989) reports that women’s participation in higher education has increased four times as fast as their numbers in the population. Reasons for this increase may be attributed to a combination of greater participation in the labor force, rising divorce rates, lower fertility and the decline of traditional female roles (Esposito, Hackett & O’Halloran, 1987; Karen, 1991; Trow, 1989). Solomon, Gordon and Ochsner (1979) analyzed educational data for 172,400 adults entering college and found a trend in American higher education that may be related to women’s growing enrollment, namely, that one can drop out of college and then drop back in.

In the 1960’s, sixty-six percent of college students over the age of 21 were enrolled for the first time; in the 1970’s only fifty percent were first timers; in the 1980’s only twenty-eight percent were first timers; and, that number has hovered around the same percentage during the early 1990’s (The Condition of Education, 1995). Cross (1991) attributes the “drop out and drop in” phenomena to the large numbers of women who dropped out of college to marry and raise children and
then went back to college in order to improve their status in the labor force. Another explanation may be higher aspirations among black women who report a growing lack of faith in marriage as an institution or opportunity which would lend positive structure to their lives (Heath, 1992; Tucker & Taylor, 1989).

Gillet-Karam (1995) found that women constitute over half the rural population of the United States. In rural areas, 50 percent of white women in the labor force earn less than $10,700 annually and 50 percent of all Latino, African-American and Native American women earn less than $8,000. The Equal Pay Act of 1963 has done little to help women in the labor force achieve parity with men. Women earn less than 70 cents for every dollar earned by men (Wall Street Journal, 1993). In South Dakota, women earn 67 cents for every dollar men earn. This rural state has the highest national percentage of women in the labor force who have young children (Status of Women, 1994).

American Indian women, who earn less than their white counterparts, are underrepresented in the workplace. Tribal colleges are responding to this inequity by providing education and employment opportunities for Indian women. Two-thirds of the student population in South Dakota's tribal colleges are women. Eleven of the twenty-eight tribal college presidents in the United States are women (South Dakota Advisory Committee to the US Commission on Civil Rights, 1996).
Women are expressing more interest in learning than men, and in recent years have closed the gap in participation rates (Bayley, 1992; Bess, 1991; Heath, 1992; Johnson, 1989; The Condition of Education, 1995). The substantial increase in women's participation is remarkable in light of data which indicate that the majority of women enrolled in college qualify for financial aid and that attainment of higher education for women has historically been lower than for men (Bayley, 1992; Cross, 1991; Karen, 1991; ). These data contradict the studies (Cobb, McIntire & Pratt 1989; Haas, 1992; Haller & Virkler, 1993; Hektner, 1995) which indicate that the lower the socioeconomic status the lower the level of educational aspirations.

Research on educational brokering indicates that women constitute anywhere from 50 to 70 percent of the clients seeking counseling and information regarding educational and career opportunities (National Center for Educational Brokering, 1989). Women, along with others who are poorly paid, are more likely to be pursuing education in order to prepare for jobs (Cross, 1991).

**Valuation of Higher Education**

People who have not previously participated in higher education tend to be more interested in the practical aspects of an education (Cross, 1991; Haas, 1992). An analysis of survey data by Johnstone
and Rivera (1965) found that as one proceeds up the educational and socioeconomic scale, the dominant orientation toward education changes from a strictly utilitarian emphasis to a greater emphasis on knowledge as having value in its own right. Fewer than one third of those from the lowest socioeconomic third of the population cite any nonmaterial benefits of education, while over two thirds of those from the highest socioeconomic third of the population mention benefits such as adding to the enjoyment of life or making one a better person (Johnstone & Rivera, 1965). Data collected since Johnstone and Rivera's 1965 study continue to support the proposition that the lower classes do not think of learning as an experience which is rewarding in its own right; it is perceived in terms of tangible gains (Cross, 1991). Because the rate of poverty is higher and educational attainment is lower in rural areas, one would surmise that rural people see the value of education primarily as a means to an end.

Tough (1968) interviewed adults involved in self-directed learning in order to gain an understanding of what motivates people to learn. He concluded that every learner has more than one reason for becoming involved in an educational process. Johnson's (1989) study of older adult community college students suggests that adult learners report an association between becoming students and an improved quality of life. Cross (1991) analyzed more than thirty studies for the prevalence of
various reasons for learning. The reasons people gave for learning corresponded with the life situations of the respondents. People who did not have good jobs were interested in further education to get better jobs, and those who had good jobs wanted to advance in them. Women, factory workers, and poorly educated people were more likely to be pursuing education in order to prepare for new jobs, whereas men, professionals, and college graduates were more likely to be seeking advancement in present jobs. Men were more interested in job-related learning than women, and young people were far more interested in it than older people. People who were not currently participating in learning (most often the economically disadvantaged and poorly educated) were more likely to express an interest in job-related education than the more advantaged. "The percent of potential learners seeking knowledge for its own sake as their primary motivation varied from study to study—from a low of 10 percent to a high of 39 percent" (Cross, 1991: 91-92).

Barriers to Higher Education

Analyses of the top reasons reported for enrolling in college courses revealed the following factors: 1) convenient location of courses; 2) desire for a degree; 3) desire for information; 4) desire to participate; and 5) job enhancement (Bess, 1991; Cross, 1981; Gillett-Karam, 1995; MacBrayne, 1995). Barriers that had previously deterred
students from enrolling in college were: 1) lack of time; 2) lack of money; 3) poor academic preparation; 4) distance to travel to college; and 5) family responsibilities (Cross, 1991). Research has been unanimous in reporting proximity and access to educational services as the most important factors in a student's decision to enroll in courses (Cross, 1981; Johnson, 1989; MacBrayne, 1995). MacBrayne (1995) found that the importance of location was independently related to all the motivational factors. When classes are located near home, the time and expense required for travel and child care are reduced as well as the psychological barrier of lack of self-confidence, which is alleviated by familiar surroundings.

Communities of rural people throughout the United States are so diverse that no one definition or characterization is possible. "Remembering that fishing villages in Maine, coal mining towns in Appalachia, farm communities in Iowa, Delta counties in Mississippi, ski villages in Colorado, Indian reservations in South Dakota, college towns in Minnesota, retirement communities in Florida, and Eskimo villages in Alaska are all rural leaves one feeling less than sanguine about sweeping generalizations" (Sher, 1977: 2).

While some of the educational issues rural people face are common to all rural areas, each type of community has its own unique opportunities and constraints. Some of the common characteristics are size, the scale on which education takes place, separation from
certain types of supportive infrastructures, and vulnerability to the
effects of poverty, terrain, and weather. An example of a common
barrier for rural students is the need to travel long distances to classes.

Aslanian and Brickell (1980) found that 83 percent of the adults
enrolled in educational activities named some transition, such as job
change, marriage, children, divorce or retirement, as the motivating
force that led them to pursue further education. Adult college entrants
tend to have both educational and economic disadvantages (Bess, 1991;

The most common research method used to study barriers to
higher education has been that of asking people through surveys and
interviews to identify the barriers they have experienced (Bess, 1991,
Cross, 1991). Knowing what prohibits people from participating in
higher education may be just as important as understanding why they
are participating. As has been stated previously, the diversity of
definitions and reporting formats make summarizing conclusions from
previous studies difficult. For instance, lack of time may be listed as a
barrier in one study, but the next study could list family and work
responsibilities.

Carp, Peterson and Roelfs (1974) classified barriers in three
categories: situational barriers, those arising from one's current life
situation; institutional barriers, policies and procedures that exclude or discourage non-traditional students from participating; and, dispositional barriers, attitudes or self-perceptions in regard to what constitutes an appropriate student. Table 2 presents data from this national study conducted for the Commission on Non-Traditional Study. Situational barriers are consistently found at the top of the list with cost.

Table 2. Perceived Barriers to Learning

<table>
<thead>
<tr>
<th>Situational Barriers</th>
<th>% Potential Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>53</td>
</tr>
<tr>
<td>Not enough time</td>
<td>46</td>
</tr>
<tr>
<td>Home responsibilities</td>
<td>32</td>
</tr>
<tr>
<td>Job responsibilities</td>
<td>28</td>
</tr>
<tr>
<td>No Child Care</td>
<td>11</td>
</tr>
<tr>
<td>No Transportation</td>
<td>8</td>
</tr>
<tr>
<td>No place to study</td>
<td>7</td>
</tr>
<tr>
<td>Unsupportive family</td>
<td>3</td>
</tr>
<tr>
<td>Institutional Barriers</td>
<td></td>
</tr>
<tr>
<td>Don't want full time</td>
<td>35</td>
</tr>
<tr>
<td>Time required to complete</td>
<td>21</td>
</tr>
<tr>
<td>Courses not scheduled when I can attend</td>
<td>16</td>
</tr>
<tr>
<td>Lack of information</td>
<td>16</td>
</tr>
<tr>
<td>Strict attendance requirements</td>
<td>15</td>
</tr>
<tr>
<td>Courses I want are not available</td>
<td>12</td>
</tr>
<tr>
<td>Too much red tape to get enrolled</td>
<td>10</td>
</tr>
<tr>
<td>Don't meet enrollment requirements</td>
<td>8</td>
</tr>
<tr>
<td>No way to get credits or a degree</td>
<td>7</td>
</tr>
<tr>
<td>Dispositional Barriers</td>
<td></td>
</tr>
<tr>
<td>Afraid that I am too old to begin</td>
<td>17</td>
</tr>
<tr>
<td>Low grades in past, not confident of ability</td>
<td>12</td>
</tr>
<tr>
<td>Not enough energy or stamina</td>
<td>9</td>
</tr>
<tr>
<td>Do not enjoy studying</td>
<td>9</td>
</tr>
<tr>
<td>Tired of school</td>
<td>6</td>
</tr>
<tr>
<td>Don't know what to learn</td>
<td>5</td>
</tr>
<tr>
<td>Hesitant to seem too ambitious</td>
<td>5</td>
</tr>
</tbody>
</table>

and time cited most often, followed by child care (a significant problem for women between the ages of 18 and 39) and transportation, which is a problem for poor people and older people (Carp, Peterson, and Roelfs, 1974; Cross, 1981; Gillet-Karam, 1995; MacBrayne, 1995).

Gillet-Karam (1995) suggests that since rural students tend to be older and proportionately more female, that programs should focus on the needs of women. Her study supports the importance of situational barriers especially for rural adults and suggests that rural adults will enroll in college programs if courses and services are geographically accessible at the moment when the student is developmentally and situationally ready. Geographic accessibility means reduction in the time required to commute and, at the same time, adding to the time available for study, family, and work. Proximity also reduces the expense of transportation and child care, as well as concerns about driving alone on secondary roads at night.

**Summary**

Studies of attitudes toward education, aspirations for higher education, and barriers generally conclude that people throughout the United States have a positive attitude toward higher education if they have achieved at least a high school education. As Cross (1991: 15) stated, “It seems that the more education one has the more one wants.”
Despite predictions that college enrollment would decrease along with the decrease in the traditional age cohort, enrollment has continued to grow. It has been suggested that these increases are largely due to the participation of previously underrepresented groups. Yet, researchers continue to report a relationship between socioeconomic status and educational aspirations that suggests poor and disadvantaged people have less desire to obtain a college education. The literature also indicates that lower socioeconomic groups value higher education only as a means to an end.

Some of these findings are contradictory. If people with low socioeconomic status have previously reported less interest in higher education, why are women and minorities now the fastest growing student cohort in higher education? If the most significant barriers to education are situational, why are Indians living in rural America enrolling in college in record numbers? Non-traditional women generally experience more barriers than traditional-age students or male students of any age, but they are also enrolling in record numbers.

What are the educational dreams of rural Americans? For those who want to go to college but don’t, what circumstances prevent them from attaining their goal? The answers to these questions may be discovered through this study which interviews a sample of the population living in rural America.
CHAPTER THREE
THEORETICAL FRAMEWORK

Introduction

This chapter provides a description of the theoretical perspectives used in this study, outlines the central assumptions of each theory, and suggests how these perspectives contribute to an understanding of the educational attitudes, aspirations, and expectations of rural American Indian and non-Indian residents.

The first theoretical perspective, rational choice theory, is a modern derivative of utilitarianism. The second perspective, Maslow's (1962) growth motivation theory, is one of the few theories applied to the study of educational participation among adult learners. Finally, the chain-of-response model (Cross, 1991) is presented as a framework for the integration of these perspectives.

Rational Choice Theory

The foundations of rational choice theory can be traced to early forms of exchange theory and classical economics and to utilitarian philosophy (Scarre, 1996; Turner, 1991). From the late 1700's to 1850, Adam Smith, David Ricardo, John Stuart Mill, and Jeremy Bentham developed utilitarian philosophies (Scarre, 1996). Utilitarianism is: “The creed which accepts as the foundation of morals, Utility, or the Greatest
Happiness Principle ...by happiness is intended pleasure, and the absence of pain; by unhappiness, pain, the privation of pleasure” (Scarre, 1996: 2). The promotion of happiness is the satisfaction of human preferences. It is the satisfaction of individual desires, rather than achieving what society considers good or bad, that truly promotes happiness (Harsanyi, 1976).

In addition to this “Greatest Happiness” principle, utilitarianism established the concepts of maximizing and aggregation. The theoretical basis for the concept of maximizing is the “principle of practical reason;” if something is good, then a rational actor will attempt to produce the maximum amount (Scarre, 1996: 15-18). The concept of aggregation assumes that the net sum of individual utility yields an overall perspective of total utility. In other words, individual utility can be quantified, measured, and summed up. The idea of “the greatest happiness of the greatest number” was an important feature of utilitarianism. Utilitarian concepts have survived over two hundred years, and found their way into modern everyday conceptualizations through the language of economics, sociology, psychology, and anthropology.

Emerson (1981:43) discusses the similarities throughout these disciplines in the use of terms such as preference, utility, value, or positive reinforcement, as generally signifying what one perceives as a
benefit. Emerson describes his summary of the core assumptions of exchange theory as "highly parsimonious yet broadly applicable." His theoretical propositions were designed to be applicable to any variation of exchange theory, including rational choice derivations:

1) Beneficial events of all kinds, whether they involve money ...or social attention, are valuable in exactly the same general sense: _people for whom they are beneficial act in a way that tends to produce them._ Such action is often called "rational behavior."

2) _Every class of beneficial events obeys a principle of satiation, value adaptation or diminishing marginal utility._

3) _Benefits obtained through social process are contingent upon benefits provided "in exchange."_

In Emerson's view, the overriding focus of exchange theory is the "flow of benefits through social interaction".

Rational choice theory has drawn sharp criticism from some theorists in the sociological community. The focus of the criticism is not so much the idea that individuals are rational and seek to maximize utility but that the individual is antecedent to and independent of the group. In the sociological view, the system or group is antecedent to the

In response to the struggle to separate more distinctly economic concepts from sociological concepts, Turner (1991) developed an accepted sociological perspective of rational choice theory. Turner reformulated utilitarian principles into the following propositions which are more representative of a sociological application of rational choice theory:

1) Humans do not seek to maximize profits, but they always attempt to make some profit in their social transactions;
2) humans are not perfectly rational, but they do engage in calculations of costs and benefits in social transactions;
3) humans do not have perfect information on all available alternatives, but they are usually aware of some alternatives;
4) humans always act under constraints, but they still compete with one another in seeking to make a profit;
5) humans always seek to make a profit in their transactions, but they are limited by the resources that they have when entering an exchange.

While Turner's reformulation adds insight and softens the sharp edges of a strictly economical approach, it does not address the issue of individuals acting independently. Ritzer (1990) proposed that while the
debates over a micro (individual) approach and a macro (system) approach continue, researchers must remember that every theoretical effort contributes to an understanding of the relationships, actions, and outcomes of human behavior.

Coleman, Collins, Friedman, Hechter, Boudon, and Münch are a few of the theoretical sociologists cited by Ritzer as contributing to a broader understanding of micro and macro phenomena (Ritzer, 1990). According to rational choice theory, individuals have goals and preferred ways of reaching those goals which are prioritized in terms of choices they must make in response to the scarcity of resources (Ritzer, 1990; Turner, 1991; Zey, 1992). Friedman and Hechter state: "Purposive agents have some particular set of preferences (that is, a utility schedule) that enable them to pursue goals (or ends) in a conscious and more or less efficient manner. In its most general and metatheoretical form, rational choice attempts to explain the emergence of social outcomes by the action of purposive agents who are subject to a variety of constraints..." (Ritzer, 1990: 221). From a rational choice perspective, barriers influence every step of the decision-making process: first, the development of preferences; second, the ways in which preferences are prioritized; third, how utility is maximized; and finally, the process of aggregation. Friedman and Hechter (1990: 630) suggest consideration
of a scenario in which: "the aggregation becomes the structure, and the structure, in turn, implies the individuals who compose it".

**Growth Motivation Theory**

Cross (1991: 112) draws upon Miller's (1967) use of the Maslow's (1962) hierarchy in explaining the association between socioeconomic status and participation in higher education. Growth motivation theory proposes that individuals and groups are motivated either by deficiency needs or growth needs. Maslow maintains that people cannot be concerned about higher human needs—belonging, self-esteem, achievement, status—until the lower or fundamental needs—food, shelter, safety—have been met.

Figure 2 is an illustration of Maslow's hierarchical concept of growth motivation. Growth motivation theory may explain why people who are concerned with survival needs have different reasons for

![Figure 2. Growth Motivation Hierarchy](image)

Source: Adapted from Maslow, A. (1962). Toward a Psychology of Being.)
participating in higher education than people who have their deficiency needs satisfied. Findings of previous studies are consistent with this application of growth motivation theory (Carp, Peterson, and Roelfs, 1974; Cross, 1979; Johnstone and Rivera, Miller, 1967; Rokeach, 1975). "...those with a high school education or less are interested primarily in job-related education, while education aimed toward self-understanding, recreation, and personal development....appeals primarily to others not concerned about survival in the labor market” (Cross, 1991: 205).

In his study of the nature of human values, Rokeach (1975: 14) found that values are generally defined as beliefs about desirable modes of conduct or desirable end-states of existence. He defined these distinct types of values as *instrumental* and *terminal*. Instrumental values are defined as indicators of types of behaviors: cleanliness, ambition, courage, helpfulness, obedience, or logical decision-making. Terminal values, on the other hand, are defined as desirable end-states: comfortable life, equality, freedom, sense of accomplishment, wisdom, or salvation. "The content of certain values directly concerns modes of behavior and end-states that are adjustment or utilitarian-oriented. Instrumental values are motivating because the idealized modes of behavior they are concerned with are perceived to be instrumental to the attainment of
desired end goals. Terminal values are motivating because they represent the supergoals beyond immediate biologically urgent goals.”

Rokeach's theory of human values and behavior is consistent with Maslow's theory of human motivation.

For example, economically oppressed groups are primarily concerned with meeting survival needs which supersede growth needs. The energy of the group is spent on acquiring food and shelter, and maintaining some semblance of safety. Whenever threats to life and well-being diminish, the group will spend more time and energy on strategies which will enable the community to achieve its potential. The group will ultimately prioritize choices which lead to social mobility. Lenski (1984: 37) states:

...the great majority of men have always accorded survival the highest priority...death ends all hopes, dreams, and ambitions centered in this world. The fact that survival is usually given the highest priority has far-reaching implications for the social life of man... because men value survival so highly, anything which facilitates survival is also valued highly. Practically, this means food and other goods and services which provide sustenance. After survival, the two chief contenders are health, and status or prestige. [Once the social structure has
satisfied deficiency needs and moved toward growth motivation]...concern for status influences almost every kind of decision...self-respect is a necessary element in every healthy, properly functioning personality. Where self-respect is destroyed, motivation is undermined. In other words, the image we form of ourselves is largely a reflection of the image others form of us. Hence, our psychological health and well-being are greatly dependent on our status in the groups we value.

In his application of growth motivation theory to society rather than the individual, Maslow (1962) conceptualized group behaviors based on what Rokeach called "the adjustive function of values (1975: 15)." "From this point of view, a society or culture can be either growth-fostering or growth-inhibiting (Maslow, 1962)."

**Chain-of-Response (COR) Model**

Cross (1991: 41) offers the COR model as a conceptual framework which appears to accommodate the assumptions of rational choice theory, growth motivation theory, and the theory of human values as an explanation of participation in higher education. The framework depicted in Figure 3 assumes that participation in learning is not a single decision but the result of a chain of responses, each based on an evaluation of the position of the individual in the environment.
The propositions laid out by Cross (1991) are consistent with the studies presented earlier which found a relationship between socioeconomic status, race, gender, the geographical location and educational attitudes, aspirations, expectations and perceived barriers:

1) Interactions indicated by the arrows in the model are representative of an exchange between the individual and the environment. The impetus for participation in higher education may begin at any point.

2) Participation (G) in education ultimately changes perceptions and attitudes about education.
3) Self-evaluation (A) plays an important role in the drive for achievement, especially in competitive educational systems. The research suggests that people who lack confidence in their abilities are less likely to voluntarily participate in education if the experience would threaten their sense of well-being.

4) Attitudes (B) are based on past personal experience, as well as the attitudes of significant others, which, in turn, are based on their past experiences. Studies have shown that failure to use educational benefits among members of a labor union can be attributed to negative attitudes on the part of co-workers.

5) Therefore, self-evaluation (A) interacts with attitudes (B) about education. Those who have had positive experiences are more likely to develop a positive self-evaluation and more favorable attitudes toward education.

6) Expectations (C) interact with self-evaluation (A) and attitudes (B), as opportunities and barriers (E) are assessed. If the determination is made that goals are likely to be achieved through higher education, then the desire to participate is likely to be strong; if it is determined that success is in doubt, the desire to participate lessens.

7) Expectations (C) are related to self-evaluation (A), indicated
by the double arrows. Those with a high self-evaluation are more likely to be confident of their potential success, while those with a lower self-evaluation are more likely to doubt their potential success.

8) Life transitions (D) whether gradual or sudden may trigger or inhibit aspirations for education. For example, entering a life cycle stage in which there are more family obligations may forestall college enrollment, whereas entering a life stage in which there is more leisure time may lead to the pursuit of higher education (Cross, 1991; Gillet-Karem, 1995; Johnson, 1988; Sheehy, 1995).

9) Opportunities and barriers (E) play an important role in making the decision whether or not to participate. Special opportunities or resources for overcoming barriers may be necessary to increase the likelihood of participation.

10) Information (F) is a crucial link between opportunities and the decision to participate. Decisions are dependent on access to information and the correct interpretation of information about opportunities and needed resources.

11) As depicted in the model, participation (G) influences self-evaluation (A) and attitudes (B). This relationship is
consistent with research findings that people who have participated in education are more likely to participate in the future—presumably because participation enhances self-evaluation, creates positive attitudes toward education and leads to higher expectations of success.

The integration of rational choice and growth motivation assertions within the framework of the chain-of-response model suggests that attitudes, aspirations, and expectations influence participation in higher education. Rational choice theory assumes the decision to participate in higher education is rational and based on a hierarchy of preferences and a weighing of costs and benefits. Theoretically, the aggregation mechanism will be observed in the expression of similar preferences throughout the population.

Growth motivation theory assumes that decisions regarding participation in higher education are based on whether or not deficiency needs have been satisfied and whether or not the individual or group is ready to meet growth needs. Individuals and groups of lower socioeconomic status are more likely to be focused on meeting deficiency needs and may have doubts about the benefits of higher education and their potential for success in higher education. Even when attitudes are positive and aspirations are high among individuals of lower socioeco-
nomic status, expectations for participation may be lowered by perceived opportunities and barriers.

At each level of Maslow's growth motivation hierarchy, circumstantial and environmental factors produce varying aspirations and expectations. At the lowest level, barriers tend to be greater and opportunities are few. Conversely, barriers decrease and opportunities expand as socioeconomic levels increase and one moves to higher levels of Maslow's hierarchy.

Propositions

The following propositions are derived from the research literature, the theoretical perspectives, and the Chain-of-Response (COR) Model informing this study.

1. Attitudes toward higher education are positively associated with:
   a. level of educational attainment (G in COR model);
   b. perceived family attitudes toward higher education;
   c. aspirations for higher education; and,
   d. expectations for participation in higher education (C in COR model).

2. Attitudes toward higher education, aspirations for higher education, expectations for participation in higher education, and perceived barriers (E in COR model) to higher education are contingent
upon:

a. socioeconomic status;

b. race, and;

c. sex.

3. Valuation of higher education as an instrumental or a terminal value varies by socioeconomic status.

If these propositions are accurate, the following hypotheses should hold:

H1: Attitudes toward higher education are positively associated with attained levels of education.

H2: Attitudes toward higher education are positively associated with one's perception of family attitudes toward higher education.

H3: Attitudes toward higher education are positively associated with aspirations for higher education.

H4: Attitudes toward higher education are positively associated with:
   a. short-term expectations for participation in higher education, and
   b. long-term expectations for participation in higher education.

H5: Women have more positive attitudes toward higher education than men.

H6: Women have greater aspirations for higher education than men.

H7: Men have greater short-term expectations for participation in higher education than women.
H8: Women have greater long-term expectations for participation in higher education than men.

H9: Non-Indians have more positive attitudes toward higher education than American Indians.

H10: Non-Indians have greater aspirations for higher education than American Indians.

H11: Non-Indians have greater short and long-term expectations for participation in higher education than American Indians.

H12: American Indians perceive more barriers to higher education than non-Indians.

H13: Socioeconomic status is positively associated with aspirations for higher education.

H14: Socioeconomic status is inversely associated with perceived barriers to higher education.

H15: Socioeconomic status is positively associated with valuation of higher education as a terminal value and inversely associated with valuation of higher education as an instrumental value.
CHAPTER FOUR

METHODOLOGY

Introduction

This empirical study used interview techniques of data collection with a systematic random sample drawn from a rural population. The dependent variables were educational aspirations, attitudes, and expectations. These were analyzed in relation to several independent variables, including socioeconomic status, race, gender and perceived barriers. This chapter provides a description of the study design, the methods of data collection, the operationalization of variables and the data analysis.

Geographical Location

Interviews were conducted in two rural counties located in south central South Dakota. The study was conducted in this rural area for four reasons: 1) the population of this area is diverse, with both Indian and non-Indian residents; 2) levels of attained education in the area were low prior to 1971; 3) in 1971, a structural change was introduced with the creation of a tribal college in one of the two counties surveyed; and 4) a local network of contacts was known and available to this investigator to facilitate entry to the area.
Population

Rural residents living within a twenty-five mile radius of a tribal institution of higher education and comprising 2235 households were the population sampled for this research.

Sampling

The sampling frame was created using telephone directories and plat maps of the area. Plat maps show the location of households and list the names of residents, including those with no telephone. A count of all residential listings in the telephone directory and plat maps of the target area identified 2235 households.

A goal of 200 completed interviews was established taking into account: 1) the time-consuming nature of gathering interview data; 2) the need for and limited availability of field assistants; 3) extensive travel required; and, 4) limited financial resources. A response rate was estimated based on loss from a variety of sources, such as refusal, death, no answer after repeated call backs, disconnects, busy, and partial completion of interviews. According to survey experts (Hayes, 1992; Lake; 1987) the margin of error in survey research depends on the sample size not the size of the population. "Thus a sample of 200 from a congressional district has the same error rate as a sample of 200
drawn from the United States" (Lake, 1987: 73).

A simple random sample of 200 has a margin of error of ±7% and a simple random sample of 500 has a margin of error of ±4.5%. These standards, widely used for polls, have been determined to protect investigators as much as possible from erroneous conclusions. Given the constraints cited above, the decision was made to accept a ±7% margin of error.

A 55% to 65% response rate is typical in survey research (Bernard, 1994; Hayes, 1992; Lake, 1987). Response rates for professional research organizations range from 60% to 75% (Lake, 1987). Because drawing a sample from a sampling frame in such a remote area may result in a higher than average nonresponse rate, a 60% response rate was estimated. In order to obtain 200 completed interviews, 333 households were drawn from the sampling frame (333 ÷ .60 = 200).

Systematic random sampling is an efficient, economic approach to sampling. A systematic random sample is a probability sample if there is no bias in the arrangement of cases (Pilcher, 1990). Using the table of random numbers, a digit between 1 and 7 was selected and every subsequent seventh listing (2235 ÷ 333 = 6.71) was drawn from the sampling frame. The most frequently reported reasons for sampling loss were "no answer after repeated call backs," disconnects," and "no one
The process of approaching residences listed on the plat map as "no telephone" proved to be time-consuming and unproductive. As a result, the initial sample was augmented with a network sample to solicit data from those with no telephone, who would otherwise have no chance to participate. Schutt (1996: 164) defines network or snowball sampling as a method in which "...a few identified members of a rare population are asked to identify other members of the population for the purpose of obtaining a nonprobability sample." A Community Health Representative and literacy volunteer who traveled regularly to small communities in the two-county area, completed twenty-four interviews with individuals who had no telephone service.

Completion Rate

Prior to data collection, the response rate was estimated at sixty percent, or two hundred completed interviews. The initial three days of interviewing yielded 178 completed interviews; network sampling yielded another twenty-four interviews. Two hundred and two completed interviews slightly exceeded the estimated response rate. The twenty-four interviews completed through network sampling constitute a nonprobability sample. The combination of a probability and non-probability
sample will be discussed in the section on statistical analysis.

**Data Collection Methods**

A structured household survey was the research instrument employed in this study. The survey (see Appendix A) includes twenty-eight structured items, four open-ended items, and twelve demographic items. The first ten items asked about attitudes toward higher education. The next nine items, which reflect aspirations and expectations, include seven structured questions and two follow up probes. The next twelve items asked about perceived barriers to higher education. Item thirty-two is open-ended and solicits an opinion regarding the value of higher education. The remaining twelve items request demographic information.

Survey items were constructed and pretested in consultation with Indian social service representatives, tribal college representatives, Indian and non-Indian former residents of the area studied, field assistants, and the university faculty advisor. A survey which incorporated everyday language that would be commonly understood by the population being sampled was deemed more appropriate for this study than existing, standardized instruments.

Structured interviews were conducted face-to-face (18% of
completed surveys) or over the telephone (82% of completed surveys). The first wave of interviews (178), were conducted by the principal investigator and five trained field assistants. The interview team included both Indian and non-Indian members to overcome problems of access to the sample. The team of interview assistants was recruited, trained, and supervised by the principle investigator. The team conducted repeated call backs or visits to ensure interviews with those who could not be reached during normal survey hours.

Respondents were informed that data were being collected as part of a study of rural people's attitudes toward education beyond high school. At the beginning of each interview, respondents were given the name, address and telephone number of the principal investigator as a contact for any questions about the study. Each respondent was guaranteed anonymity and confidentiality.

Responses to structured items were based on a five point Likert scale which ranged from strongly disagree to strongly agree with a neutral mid-range response. "The advantage of using a Likert-type format rather than yes, no or a checklist is reflected in the variability of scores that result from the scale" (Hayes, 1992: 59). A range of responses allows respondents to express the strength of their opinions. "From a statistical perspective, scales with two response options have less relia-
bility than scales with five response options...reliability seems to level off after five scale points” (Lissitz & Green, 1975: 10). Field assistants used a visual aid with the five response options for face-to-face interviews. Once in the field, the research instrument seemed to work well. The research team met each day to discuss experiences and any problems with the interview process. No revisions were made to the research instrument during the data collection.

Data Processing Methods

The demographic information, dependent variables and independent variables were coded and entered into the Statistical Package for Social Sciences computer software package. The independent variables are socioeconomic status, race, sex, and perceived barriers. The dependent variables are attitudes, aspirations, short and long-term expectations for participation, and valuation of education. Survey items assessing attitudes, aspirations, and perceived barriers were selected for testing on the basis of the Alpha coefficient. The variables are operationalized as follows:

Independent Variables

1. Socioeconomic status is operationally defined by the respondent’s highest level of educational attainment and reported income. Previous research characterizes people living in
rural reservation areas, such as the target area for this study, as predominantly low socioeconomic status.

2. *Race* is operationally defined according to self-report as American Indian or non-Indian.

3. *Sex* is operationally defined according to self-report as male or female.

4. *Perceived Barriers* are operationally defined by the following survey items:

   "It would be hard for me to get enough money to go to college."

   "Obligations to family and relatives could interfere with going to school."

   "Transportation can be difficult out in this part of the country. It would be hard to get the money to pay for gas to go to classes."

   "I need advice to find out what I am good at and what I should study in college."

   "I would like to find the money to go to college."

The five *barrier perception* items when numerically summarized and recoded as "high" and "low" and revealed a range of scores from eight to twenty-five (8 - 25) with a mean score of 16. Those with a score between 8 and 16 were identified as perceiving less barriers than those with a score between 17 and 25.
Dependent Variables

1. *Attitudes*, defined as beliefs or convictions about higher education, are operationally defined by the following survey items:

   "I think it is important to go to college."

   "My family believes getting a college degree is a good thing to do."

   "Going to college is worth it because I could get a better job with a college degree."

   "It is important for children growing up today to get a college education."

The four *attitude* items when numerically summarized and recoded as "high" and "low" revealed a range of scores from seven to twenty (7 - 20) with a mean score of 17. Those with a score between 7 and 17 were identified as having "low" or less positive attitudes than those with a score between 18 and 20.

2. *Aspirations*, defined as desires, dreams, or preferences that do not take into account perceived barriers to higher education, are operationally defined by the following survey items:

   "I would feel good about myself if I got my college degree."

   "The time and money you spend on a college education is well worth it."
“Attending a local college that is sensitive to Native American issues is important to me.”

“Going to college is the best way to gain the knowledge and skills you need in today’s world.”

The four aspiration items when numerically summarized and recoded as “high” and “low” revealed a range of scores between ten and twenty (10 - 20) with a mean score of 17. Those with a score between 10 and 17 were identified as having “low” or lower aspirations than those with a score between 18 and 20.

3. Expectations, defined as one’s anticipation of future educational participation considering perceived barriers, are operationally defined as short-term and long-term expectations. Short-term expectations are operationalized by survey item:

“No participation in higher education was defined as a “low” short-term expectation. Participation in higher education was defined as a “high” short-term expectation. Long-term expectations are operationalized by survey item:

“If you want more schooling, which of the following will you probably pursue?”
No expectation of participation in higher education was defined as a "low" long-term expectation. Expectations of participation in higher education was defined as a "high" long-term expectation.

4. *Valuation of higher education* is operationally defined as a terminal value or an instrumental value based on responses to survey item:

"What is the greatest benefit of a college education?"

Previous research characterizes people living in rural areas, such as the target area, as valuing higher education as a means to an end rather than an end in itself. In order to test for valuation of higher education, a dichotomous variable was created by identifying those who reported valuing higher education as a means to an end as holding *instrumental values* and those who reported valuing higher education as an end in itself as holding *terminal values*.

**Reliability and Validity**

Likert scales, which demonstrate high reliability, enable the investigator to distinguish between varying levels of opinion and make it more likely to find significant relationships between variables that are truly related to each other (Hayes, 1992). A five response Likert-type scale to record responses gave the survey items the same range of
variation. The research instrument used four items to assess attitudes toward higher education, four items to assess aspirations for higher education, one item to assess short-term expectations, one item to assess long-term expectations and five items to assess perceived barriers to higher education. Internal consistency indices can only be estimated with measures that have more than one item (Bernard, 1994; Williams, 1992). Even though some of the items may appear redundant, the point of using multiple items to measure a given dimension is to ensure that the overall score, which is a composite of several observed responses, is a reliable reflection of the underlying true score. Furthermore, responses to the items can be compared to one another for consistency. This adds confidence that the observed scores reflect true levels of respondents' attitudes and aspirations.

The reliability of the attitude scale, aspiration scale and perceived barriers scale was assessed through descriptive statistics, intercorrelations, item-total statistics, and the Alpha coefficient. Revisions were made to each scale based on the standard deviations, negative inter-item correlations, item-total statistics and the Alpha reliability coefficient. An Alpha of at least 0.70 is an acceptable indication that the scale may be used in subsequent data analysis with other variables (Cortena, 1993). The Alpha for the three scales ranged from 0.71 to
Concerns regarding the reliability of the interview process in the field were addressed in the careful selection of field assistants, training sessions, and supervision in the field. The investigator's knowledge of previous research and subjective assessment of how variables are operationalized is one way to assure both reliability and validity in field research.

Validity of the research instrument was addressed by using face validity to develop items which appeared to measure attitudes, aspirations, expectations, and perceived barriers. The face validity for this study was strengthened by pretesting the instrument and soliciting an evaluation of the process from independent evaluators with varying areas of expertise appropriate to the needs of this study. Five separate groups (tribal people from the area, non-Indian people from the area, American Indian and non-Indian educators, tribal university representatives, and research experts) examined the content of the survey items.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes Toward Higher Education</td>
<td>0.74</td>
</tr>
<tr>
<td>Aspirations for Higher Education</td>
<td>0.71</td>
</tr>
<tr>
<td>Perceived Barriers to Higher Education</td>
<td>0.71</td>
</tr>
</tbody>
</table>
to assess the degree to which the items were representative of attitudes, aspirations, expectations and perceived barriers. Evaluators also assessed whether or not items were constructed in a way that would be commonly understood by the sample being interviewed. Revisions were made to the survey based upon pretest feedback prior to the statistical analysis. Pretest evaluators reviewed revisions and found the new items to be representative of what people would agree or disagree with when asked their opinions and personal desires in regard to higher education.

Null Hypotheses

The following null hypotheses were tested and the findings are reported in Chapter Five:

H(0)1: There is no relationship between attitudes toward higher education and attained level of education.

H(0)2: There is no relationship between attitudes toward higher education and perceptions of family attitudes toward higher education.

H(0)3: There is no relationship between attitudes toward higher education and aspirations for higher education.

H(0)4: There is no relationship between attitudes toward higher education and short or long-term expectations for participation in higher education.

H(0)5: There is no difference between the attitudes of men and women toward higher education.
H(0)6: There is no difference between the aspirations of men and women for higher education.

H(0)7: There is no difference between men and women in their short-term expectations for participation in higher education.

H(0)8: There is no difference between men and women in their long-term expectations for participation in higher education.

H(0)9: There is no relationship between attitudes toward higher education and race.

H(0)10: There is no relationship between aspirations for higher education and race.

H(0)11: There is no relationship between expectations for participation in higher education and race.

H(0)12: There is no relationship between perceived barriers to higher education and race.

H(0)13: There is no relationship between socioeconomic status and aspirations for higher education.

H(0)14: There is no relationship between socioeconomic status and perceived barriers to higher education.

H(0)15: There is no relationship between socioeconomic status and valuation of higher education as an instrumental or a terminal value.
Statistical Analysis

The unit of analysis for this study is the individual. Survey respondents self-identified as residents of one of the two counties sampled and were at least eighteen years of age. Descriptive statistics are used to present findings in a meaningful manner by organizing data, describing distributions, and describing the relationship among variables. Inferential statistics are used to test the null hypotheses and make inferences about data findings to the population.

Because twenty-four of the completed interviews were not randomly selected, the statistics were run with and without the data from these interviews, to determine whether the results vary. The assumption of a random sample is maintained because there was no variance between the random sample data and the random sample plus the network data sample in the statistical tests of hypotheses.

The statistical tests used to test the null hypotheses are as follows: chi-square test for independence, Phi measure of association, and multiple regression.

Chi-Square Test For Independence

The data were measured at nominal and ordinal levels of measurement. The data measured at the ordinal level were dichotomized (attitudes, aspirations, expectations, perceived barriers) to
test the null hypotheses. The chi-square test for statistical independence at the <.05 level was used to test for differences. When the Chi-square test suggested a significant difference between variables, a Phi test is used to test for strength of the association.

The chi-square test for independence allows the researcher to classify observations in two ways and then ask whether the two ways are independent of each other. For example, this study classifies people by self-report of race and level of educational attainment. A possible null hypothesis could be that race and level of attained education are independent. In other words, the proportion of individuals attaining a certain level of education is the same regardless of race (Nie, et.al., 1975, Schutt, 1996).

The chi-square analysis involves calculating a table of expected values, assuming the null hypothesis about independence is true. The expected values are compared to the observed values to determine whether the differences are reasonable if the null hypothesis is true. The significance of the differences is gauged by the chi-square value of weighted squared differences. The smaller the resulting chi-square value, the more reasonable is the null hypothesis of independence. If the chi-square value exceeds the critical value, the evidence is sufficient to reject the null hypothesis and accept the research hypothesis which claims that
some type of systematic relationship exists between the two variables. In the example cited above, a statistically significant chi-square would indicate the proportion of individuals attaining a certain level of education would vary by race (Nie, et.al., 1975, Norušis, 1996).

Two cautionary points should be discussed when using the chi-square test for independence. If any of the expected values are too small, the chi-square value tends to be deceivingly high. The usual cut-off point for expected values is five. Achieving a value of five sometimes requires combining two or more classifications, which then leads to smaller numbers of degrees of freedom. The smaller the $df$ value, the larger the dispersion in the distribution. The larger the $df$, in other words, the larger the sample size and the closer the distribution comes to the normal distribution. The second cautionary note is that even when enough evidence exits to reject the null hypothesis of independence, it does not imply a direct causal relationship between the two variables. Referring again to the example of race and level of attained education, even if it is determined that there is a link between the variables, the researcher cannot claim that one causes the other (ibid).

**Phi Measure of Association**

A measure of association is a descriptive statistic used to summarize the strength of a relationship between variables. Measures
of association must be appropriate for variables measured at particular levels. The chi-square statistic is not a measure of association because its value does not reveal any information regarding the strength of the relationship between two variables. For 2 X 2 tables using nominal classifications the Phi coefficient is the appropriate measure of association. The possible values of Phi vary from -1, meaning the variables are perfectly associated in an inverse direction, to 0, meaning there is no association of the type measured by Phi, to +1, meaning there is a perfect positive association (Norusis, 1996; Schutt, 1996).

**Multiple Regression Analysis**

The purpose of multiple regression analysis is to describe the dependence of a variable on a set of other variables or to predict the dependent variable based on its relationship to a set of independent variables (Grimm & Yarnold, 1995; Long, 1997). As with the chi-square statistic, multiple regression cannot explain the nature or cause of phenomena. Nevertheless, multiple regression does enable the researcher to “gain a better understanding of the nature of a phenomenon by identifying those factors with which it co-occurs” (Grimm & Yarnold: 33). The multiple correlation coefficient (R) and coefficient of multiple determination reveal the co-occurrence between
the combination of all predictors and the criterion. The adjusted
R-square reveals the percentage of variance in the criterion which is
shared by the combination of variables.

The intent of this research was to examine the nature of attitudes,
aspirations, expectations and perceived barriers among a rural
population. The dependent variables were subjected to regression
analysis, in order to discover what variables co-occur and how much of
the variance is explained by the interaction.

Summary

This cross-sectional research design utilized structured interviews
to gather data on the educational attitudes, aspirations, expectations
and perceived barriers of rural, self-identified American Indian and
non-Indian adults living in close proximity to a tribal college. Data from
202 interviews conducted during the fall of 1996 were analyzed. The
dependent variables were attitudes toward higher education, aspirations
for higher education, and expectations for participation in education
beyond high school. The independent variables were socioeconomic
status, race, gender, and perceived barriers. Systematic random
sampling and network sampling were utilized to draw a sample from the
population. Descriptive and inferential statistics were used to analyze
the survey data.
CHAPTER FIVE

ANALYSIS OF DATA

Introduction

This chapter presents descriptive information about the population of the target area and the sample surveyed for this study, along with the findings of the research data as they relate to tests of the null hypotheses.

Demographic Profile of Sample

Table 4 provides demographic information about the sample interviewed for this study. Of the two hundred two respondents, one hundred thirty-two self-identified as American Indian and seventy as Non-Indian. One hundred twenty-three women and 79 men were interviewed. Eighty-one percent reported having attained a high education.

Table 4. Demographic Profile of Sample (N =202)

<table>
<thead>
<tr>
<th>Race:</th>
<th>American Indian</th>
<th>Non-Indian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>132 (65%)</td>
<td>70 (35%)</td>
</tr>
<tr>
<td>Sex:</td>
<td>Male</td>
<td>79 (39%)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>123 (61%)</td>
</tr>
<tr>
<td>Educational Attainment:</td>
<td>High School</td>
<td>164 (81%)</td>
</tr>
<tr>
<td></td>
<td>College</td>
<td>44 (22%)</td>
</tr>
<tr>
<td>Annual Income:</td>
<td>&lt; $10,000</td>
<td>124 (61%)</td>
</tr>
<tr>
<td></td>
<td>&gt; $10,000</td>
<td>78 (39%)</td>
</tr>
</tbody>
</table>
Twenty-two percent have also attained a college education. Only nineteen percent of those surveyed had not completed high school.

The majority of those sampled, sixty-one percent, reported an annual income of more than $10,000. Thirty-nine percent reported an annual income of less than $10,000. Of that thirty-nine percent, twenty-three percent reported an annual income of less than $5,000. All forty-five respondents reporting less than $5,000 annual income were American Indian.

Population and Sample Comparison

This section outlines information about characteristics of the population and the sample. Systematic random sampling, which meets the assumptions of a probability sample, was used to draw the sampling frame. Network sampling was used to select 24 of the 202 completed interviews. All tests of hypotheses were run on the complete data set, which included the network sample, and then again on the data set of 178 interviews which did not include the network sample data. Because the test results did not vary, the assumption of a random sample was maintained.

Table 5 provides information regarding the population living within a twenty-five mile radius of the tribal university compared to the sample drawn from that population. The sample is representative of the
Table 5. Summary of Population and Sample Comparison

<table>
<thead>
<tr>
<th></th>
<th>Population*</th>
<th>Sample**</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>4959</td>
<td>202</td>
</tr>
<tr>
<td>American Indian</td>
<td>3616 (73%)</td>
<td>132 (65%)***</td>
</tr>
<tr>
<td>Non-Indian</td>
<td>1343 (27%)</td>
<td>70 (35%)***</td>
</tr>
<tr>
<td>Male</td>
<td>2304 (46%)</td>
<td>79 (39%)</td>
</tr>
<tr>
<td>Female</td>
<td>2655 (54%)</td>
<td>123 (61%)</td>
</tr>
<tr>
<td>High School Graduates</td>
<td>2725 (67.2%)</td>
<td>164 (81.1%)***</td>
</tr>
<tr>
<td>College Graduates</td>
<td>753 (18.6%)</td>
<td>44 (21.7%)</td>
</tr>
</tbody>
</table>

Note: * 1990 Census Data (18+); ** 1996 Survey Data (18+); ***z-score p < .01

population by sex and proportion of college graduates, but the proportion of non-Indians and high school graduates in the sample is statistically higher than that of the population.

The over-representation of non-Indians may be a result of the fact that more non-Indian residents have current listings in the telephone directory. Outmigration of Indian residents may also be a factor. The higher number of high school graduates in the sample may be due to changes which have occurred in the population between 1990 when the census data were gathered and 1996 when the sample was drawn. Levels of educational attainment have steadily increased since the tribal university was established in 1971. Table 6 shows the changes in levels of education from 1970 to 1990 in the target area.
The data show that the number of high school graduates has nearly doubled.

**Attitudes of the Sample**

The range, mean, and standard deviation of responses to the items in the attitude scale are provided in Table 7. The Likert scale measuring attitudes ranged from one to five, with five representing the strongest positive attitude toward higher education. The Attitude Scale ranged from seven to twenty, with a mean of 17.9 and standard deviation of 2.07.

<table>
<thead>
<tr>
<th>Table 7. Attitude Item Scores</th>
<th>Attitude Scale Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of College</td>
<td>Family Beliefs</td>
</tr>
<tr>
<td>Range</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Mean</td>
<td>4.56</td>
</tr>
<tr>
<td>SD</td>
<td>.67</td>
</tr>
<tr>
<td>n</td>
<td>202</td>
</tr>
</tbody>
</table>
Aspirations of the Sample

The range, mean, and standard deviation of responses to the items in the aspiration scale are provided in Table 8. The Likert scale ranged from one to five, with five representing the strongest aspirations for higher education. The Aspiration Scale ranged from ten to twenty, with a mean of 16.93 and standard deviation of 2.23.

<table>
<thead>
<tr>
<th>Table 8. Aspiration Item Scores</th>
<th>Aspiration Scale Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire for a College Degree</td>
<td>Desire to Invest in Education</td>
</tr>
<tr>
<td>Range</td>
<td>1-5</td>
</tr>
<tr>
<td>Mean</td>
<td>4.44</td>
</tr>
<tr>
<td>SD</td>
<td>.65</td>
</tr>
<tr>
<td>n</td>
<td>202</td>
</tr>
</tbody>
</table>

Expectations of the Sample

Response categories for short-term expectations for participation included: “going to college,” “getting a job,” “continuing in job,” “marriage,” “moving away,” “taking care of the family,” “joining the military,” “don’t know” and “other.” Seventy-six percent of the 202 respondents indicated an expectation of going to college in the “next year or two.” In response to the survey item which asked, “Would you like more education or do you think you’ve had enough?”, eighty-two percent of indicated a desire for more education. The long-term expec-
tations of those who desire more education were: a) vocational school, 13 percent; b) tribal university, 42 percent; c) college out-of-town, 14 percent; d) graduate school, 13 percent; and e) Other, 18 percent.

Perceived Barriers of the Sample

The range, mean, and standard deviation of responses to the items in the perceived barrier scale are provided in Table 9. The Likert scale measuring perceived barriers ranged from one to five, with five representing the strongest personal perception of the barrier to higher education. Having the money to pay for school and accessing financial aid were the most frequently reported barriers. The Perceived Barriers Scale ranged from eight to twenty-five, with a mean of 16.32 and standard deviation of 3.74.

<table>
<thead>
<tr>
<th>Items</th>
<th>Perceived Barriers Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Family Obligations</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Transportation</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Information</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Range</td>
<td>8 - 25</td>
</tr>
<tr>
<td>Mean</td>
<td>3.50</td>
</tr>
<tr>
<td>SD</td>
<td>1.04</td>
</tr>
<tr>
<td>n</td>
<td>202</td>
</tr>
</tbody>
</table>

Tests of the Null Hypotheses

This section reports the findings of tests of the null hypotheses, which lead to findings on the research hypotheses.
**Hypothesis One**

**Null Hypothesis:** There is no relationship between attitudes toward higher education and level of educational attainment.

**Research Hypothesis:** Attitudes toward higher education are positively associated with level of educational attainment.

<table>
<thead>
<tr>
<th>Table 10. Attitudes by Educational Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

chi square = .198; df = 1; p = .656

The chi square for the data in Table 10 is .198. The null hypothesis cannot be rejected; there is no significant difference in attitudes toward higher education by level of educational attainment. Both groups report positive attitudes toward higher education.

**Hypothesis Two**

**Null Hypothesis:** There is no relationship between attitudes toward higher education and perceptions of family attitudes
toward higher education.

**Research Hypothesis:** Attitudes toward higher education are positively associated with one's perception of family attitudes toward higher education.

Table 11. Attitudes by Family Attitudes

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>Family Attitudes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>16</td>
<td>65</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>94%</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>120</td>
<td>65%</td>
</tr>
<tr>
<td></td>
<td>6%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>185</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

chi square = 22.55; df = 1; \( p = .000 \); Phi = .334

The chi square for the data in Table 11. is 22.55 which is significant at \( p = .0001 \) level. The null hypothesis is, therefore, rejected. The Phi coefficient of .334 indicates a moderate relationship; the attitudes one has toward higher education are positively associated with the attitudes one's family holds toward higher education. Ninety-nine percent (120) of the 121 respondents who reported positive attitudes toward higher education also report positive attitudes among family members.
**Hypothesis Three**

**Null Hypothesis:** There is no relationship between attitudes toward higher education and aspirations for higher education.

**Research Hypothesis:** Attitudes toward higher education are positively associated with aspirations for higher education.

<table>
<thead>
<tr>
<th>Aspirations</th>
<th>Attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>68 (84%)</td>
</tr>
<tr>
<td>High</td>
<td>13 (16%)</td>
</tr>
<tr>
<td>Total</td>
<td>81 (100%)</td>
</tr>
</tbody>
</table>

The chi square for the data in Table 12. is 44.47, which is statistically significant at \( p = .0001 \) level. Therefore, the null hypothesis is rejected. There is a systematic relationship between attitudes toward higher education and aspirations for higher education. The Phi coefficient of .469 indicates that this relationship is moderately strong.
Hypothesis Four

Null Hypothesis: There is no relationship between attitudes toward higher education and short or long-term expectations participation in higher education.

Research Hypothesis: Attitudes toward higher education are positively associated with:

a. short-term expectations for participation in higher education
b. long-term expectations for participation in higher education.

<table>
<thead>
<tr>
<th>Table 13.</th>
<th>Short-term Expectations by Attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST Expectations</td>
<td>Attitudes</td>
</tr>
<tr>
<td>No Participation</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>26%</td>
</tr>
<tr>
<td>Participation</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>74%</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square = .205; df = 1; p = -.651

The chi-square for the data in Table 13. is .205. The small chi-square indicates the absence of a relationship between attitudes toward higher education and short-term expectations for participation. Thus, the null hypothesis cannot be rejected.
Table 14. presents the data on long-term expectations for participation in higher education and attitudes toward higher education. The chi-square value of 7.989 is statistically significant. Therefore, the null hypothesis is rejected. There is a difference in long-term expectations for participation in higher education by attitudes toward higher education. Of the 202 individuals sampled, 168 indicated a long-term expectation for participation in higher education. Of those 168, 72 percent also report positive attitudes toward higher education. Only 17 percent (34) of the respondents reported low long-term expectations for participation. Of those 34, 67 percent also reported low attitudes. Even though the relationship was statistically significant, the Phi of .199 indicates that the relationship is weak. Other variables may explain more about the relationship between attitudes and expectations.

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Attitudes</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>21</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>60</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td></td>
<td>74%</td>
<td>89%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

chi square = 7.989; df = 1; p = .005; Phi = .199
**Hypothesis Five**

**Null Hypothesis:** There are no differences in attitudes toward higher education by sex.

**Research Hypothesis:** Women have more positive attitudes toward higher education than men.

<table>
<thead>
<tr>
<th>Table 15. Attitudes by Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

chi square = .467; df = 1; p = .495; Phi = .048

The chi-square for the data in Table 15. is .467 with p = .495 and a Phi coefficient of .048. Thus, the null hypothesis cannot be rejected. There is no statistical relationship between attitudes toward higher education and sex.
**Hypothesis Six**

**Null Hypothesis:** There are no differences in aspirations for higher education by sex.

**Research Hypothesis:** Women have greater aspirations for higher education than men.

<table>
<thead>
<tr>
<th>Table 16. Aspirations for Higher Education by Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirations</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The chi-square for the data presented in Table 16. is 7.12. This indicates a significant difference in aspirations by gender at $p = .01$. Consequently, the null hypothesis is rejected. Women report higher aspirations than men. Of the ninety respondents who reported high aspirations, 71 percent were women. The degree of association is weak, as expressed by the Phi coefficient of .188.
**HYPOTHESIS SEVEN**

**NULL HYPOTHESIS:** There is no difference between the short-term expectations of men and women for participation in higher education.

**RESEARCH HYPOTHESIS:** Men have greater short-term expectations for participation in education than women.

<table>
<thead>
<tr>
<th>Table 17. Short-term Expectations by Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST Expectations</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>No participation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Participation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The chi-square for the data in Table 17. is 3.854, which is significant at $p = .05$ level. Therefore, the null hypothesis is rejected. However, contrary to the predicted relationship, women report greater short-term expectations for participation in higher education than men. However, the Phi coefficient of .138 indicates that the association between expectations and sex is weak.
**Hypothesis Eight**

**Null Hypothesis:** There is no difference between men and women in their long-term expectations for participation in higher education.

**Research Hypothesis:** Women have greater long-term expectations for participation in higher education than men.

<table>
<thead>
<tr>
<th>LT Expectations</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>No participation</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>19%</td>
<td>15%</td>
</tr>
<tr>
<td>Participation</td>
<td>64</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>81%</td>
<td>85%</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square = .431; df = 1; p = .512; Phi = .046

The chi-square for the data in Table 18 is .431 with p = .512 and a Phi coefficient of .046. Thus, the null hypothesis cannot be rejected. There is no statistical relationship between long-term expectations and sex.
**Hypothesis Nine**

**Null Hypothesis:** There is no relationship between attitudes toward higher education and race.

**Research Hypothesis:** Non-Indians have more positive attitudes toward higher education than American Indians.

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>American Indian</th>
<th>Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>45</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>34%</td>
<td>51%</td>
</tr>
<tr>
<td>High</td>
<td>87</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>66%</td>
<td>49%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*chi square = 5.724; df = 1;  p = .017; Phi = -.168*

The chi square found is 5.724. This difference is significant at p = .017. Therefore, the null hypothesis is rejected. Contrary to the predicted difference, American Indians report more positive attitudes toward higher education than non-Indians. However, the Phi coefficient for this relationship is weak at -.168.
HYPOTHESIS TEN

NULL HYPOTHESIS: There is no relationship between aspirations for higher education and race.

RESEARCH HYPOTHESIS: Non-Indians have greater aspirations for higher education than American Indians.

Table 20. Aspirations by Race

<table>
<thead>
<tr>
<th>Aspirations</th>
<th>American Indian</th>
<th>Non-Indian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>68</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>52%</td>
<td>63%</td>
</tr>
<tr>
<td>High</td>
<td>64</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>48%</td>
<td>37%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square = 2.382; df = 1; p = -.123; Phi = -.109

The chi-square for the data presented in Table 20. is 2.382, which has a p = -.123. Therefore, the null hypothesis cannot be rejected. There is no statistical relationship between aspirations for higher education and race.
**Hypothesis Eleven**

**Null Hypothesis:** There is no relationship between expectations for participation in higher education and race.

**Research Hypothesis:** Non-Indians have greater short and long-term expectations for participation in higher education.

<table>
<thead>
<tr>
<th>Race</th>
<th>American Indian</th>
<th>Non-Indian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST Expectations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Participation</td>
<td>37</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>17%</td>
</tr>
<tr>
<td>Participation</td>
<td>95</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>72%</td>
<td>83%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>132</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square= 2.951; df = 1; p = .086; Phi = .121

The chi-square for the data in Table 21. is 2.951, with a p = .086, which is not significant. The null hypothesis cannot be rejected. Short-term expectations and race are statistically independent. The vast majority of respondents expect to participate in higher education in the next one to two years.
Table 22. Long-term Expectations by Race

<table>
<thead>
<tr>
<th>LT Expectations</th>
<th>Race</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>American Indian</td>
</tr>
<tr>
<td>No Participation</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Participation</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>85%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square= .851; df = 1;  p = -.356;  Phi = -.065

The chi-square for the data presented in Table 22. is .851, which has a p = .356. Therefore, the null hypothesis cannot be rejected.

There is no statistical difference in long-term expectations by race.

**Hypothesis Twelve**

**Null Hypothesis:** There is no relationship between perceived barriers to higher education and race.

**Research Hypothesis:** American Indians perceive more barriers to higher education than non-Indians.

Table 23. Perceived Barriers by Race

<table>
<thead>
<tr>
<th>Perceived Barriers</th>
<th>American Indian</th>
<th>Race</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-Indian</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>61</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>46%</td>
<td>71%</td>
</tr>
<tr>
<td>High</td>
<td>71</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>54%</td>
<td>29%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square= 11.75; df = 1;  p = -.001;  Phi = -.241
The chi-square for the data presented in Table 23. is 11.75, which is significant at p = .001. Therefore, the null hypothesis is rejected. American Indians perceive more barriers to higher education than non-Indians. The Phi coefficient of -.241 indicates a moderately weak association.

**Hypothesis Thirteen**

**Null Hypothesis:** There is no relationship between socioeconomic status and aspirations for higher education.

**Research Hypothesis:** Socioeconomic status is positively associated with aspirations for higher education.

Table 24. Aspirations by Socioeconomic Status

<table>
<thead>
<tr>
<th>Aspirations</th>
<th>SES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>58%</td>
</tr>
<tr>
<td>High</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>42%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

chi square = .523; df = 1; p = .470

Table 24. presents the data on a chi-square of .523 indicating that aspirations for higher education are not statistically different by socioeconomic status. Therefore, the null hypothesis cannot be rejected. Aspirations for higher education are independent of SES.
**Hypthesis Fourteen**

**Null Hypothesis:** There is no relationship between socioeconomic status and perceived barriers to higher education.

**Research Hypothesis:** Socioeconomic status is inversely associated with perceived barriers to higher education.

<table>
<thead>
<tr>
<th>Barriers</th>
<th>SES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>38</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>72%</td>
</tr>
<tr>
<td>High</td>
<td>62</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>62%</td>
<td>28%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>102</td>
</tr>
</tbody>
</table>

100% 100%

Chi square = 22.986; df = 1; p = 0.000; Phi = -0.337

The chi square testing the data in Table 25 is 22.986 which is significant at p = 0.0001. The null hypothesis is rejected. There is an inverse relationship between socioeconomic status and perceived barriers to higher education reflected in a Phi coefficient of -0.337. The lower the socioeconomic status the greater one's perception of barriers to higher education.
**Hypothesis Fifteen**

**Null Hypothesis:** There is no relationship between socioeconomic status (SES) and the valuation of higher education as an instrumental or a terminal value.

**Research Hypothesis:** High SES is positively associated with valuation of higher education as a terminal value and inversely associated with valuation of higher education as an instrumental value.

<table>
<thead>
<tr>
<th>Table 26. Valuation Education by SES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Education</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Instrumental Value</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>55</td>
</tr>
<tr>
<td>55%</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>39</td>
</tr>
<tr>
<td>38%</td>
</tr>
<tr>
<td>Terminal Value</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>45</td>
</tr>
<tr>
<td>45%</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>63</td>
</tr>
<tr>
<td>62%</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>100%</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>102</td>
</tr>
<tr>
<td>100%</td>
</tr>
</tbody>
</table>

chi square = 5.704; df = 1; p = .017; PHI = .168

A chi-square of 5.704 is observed in Table 26. Therefore, the null hypothesis is rejected. The differences in valuation of higher education by socioeconomic status are significant at p = .05. Although the correlation is weak, as indicated by a Phi coefficient of .168, those
with low SES are more likely to view education as an instrumental value and those with high SES are more likely to view education as a terminal value.

**Multiple Regression Analyses**

The intent of this research was to examine attitudes, aspirations, expectations, and perceived barriers to higher education among a rural population. However, because the chi-square test for independence revealed statistically significant differences for several variables, a better understanding of the nature of these relationships can be provided by subjecting the dependent variables to regression analyses.

Multiple regression statistical techniques provide a means of examining the influence of selected independent variables on the dependent variable. Stepwise variable selection was utilized to enter or remove variables from the equation depending on the significance of the F value (p of F to enter < .05; p of F to remove > .10). Table 27 provides a summary of the regressions of attitudes, aspirations, expectations and perceived barriers.

**Attitudes Toward Higher Education**

Aspirations for higher education and gender have the greatest influence on attitudes toward higher education. Stepwise selection (see Appendix B) excluded socioeconomic status, family attitudes,
Table 27. Selected Statistics for Multiple Regression Analyses: Stepwise Selection

<table>
<thead>
<tr>
<th>Regression of Variables</th>
<th>Adjusted R Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes on Aspirations and Sex*</td>
<td>.715</td>
<td>164.702</td>
<td>.000</td>
</tr>
<tr>
<td>Aspirations on Attitudes, Family Attitudes and Race*</td>
<td>.287</td>
<td>27.936</td>
<td>.000</td>
</tr>
<tr>
<td>Expectations on Aspirations and SES*</td>
<td>.087</td>
<td>10.151</td>
<td>.000</td>
</tr>
<tr>
<td>Perceived Barriers on SES and Aspirations*</td>
<td>.158</td>
<td>19.798</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Probability of F-to-enter <= .050, Probability of F-to-remove >= .100; *Probability of F-to-enter = .050 limits reached.

perceived barriers and race, indicating little impact on attitudes.

Seventy-two percent of the variation in attitudes can be explained by aspirations and gender.

Aspirations For Higher Education

Attitudes toward higher education, family attitudes, and race have the greatest influence on aspirations for higher education.

Stepwise selection (see Appendix B) excluded socioeconomic status and sex, indicating little impact on aspirations. However, only thirty percent of the variation in aspirations can be explained by the variables included in the equation.

Expectations For Participation In Higher Education

Of the seven variables entered into the regression analysis for expectations only aspirations and socioeconomic status were significant.
(See Appendix B). However, less than one percent of the variation in expectations can be explained by these variables.

**Perceived Barriers To Higher Education**

Seventeen percent of the variation in perception of barriers to higher education can be explained by socioeconomic status and aspirations. Stepwise selection (see Appendix B) excluded sex, race, attitudes and family attitudes from the equation, indicating that they have little impact on perception of barriers.

**Summary of Findings**

The findings are summarized according to the propositions developed for this research. Table 28 provides a summary of the statistical tests of the hypotheses.

**Attitudes Toward Higher Education by Level of Educational Attainment, Family Attitudes, Aspirations and Expectations**

Proposition one, anticipated a positive association between attitudes toward higher education, level of educational attainment, perceived family attitudes toward higher education, aspirations for higher education, and expectations for participation in higher education. Four hypotheses were derived and tested based on this proposition. The results of these tests partially support the derived hypotheses. Family attitudes, aspirations, and long-term expectations
Table 28. Results of Tests of Hypotheses

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Chi-Square</th>
<th>Probability</th>
<th>Phi Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Att. X Ed. Level</td>
<td>0.198</td>
<td>-0.656</td>
<td>-0.656</td>
</tr>
<tr>
<td>Att. X Fam. Att.</td>
<td>5.514**</td>
<td>-0.01</td>
<td>0.165</td>
</tr>
<tr>
<td>Aspirations X Att.</td>
<td>44.47***</td>
<td>-0.0001</td>
<td>0.469</td>
</tr>
<tr>
<td>ST Exp. X Attitudes</td>
<td>0.205</td>
<td>-0.651</td>
<td>-0.651</td>
</tr>
<tr>
<td>LT Exp. X Attitudes</td>
<td>7.989**</td>
<td>-0.005</td>
<td>0.199</td>
</tr>
<tr>
<td>Attitudes X Sex</td>
<td>0.467</td>
<td>0.495</td>
<td>0.048</td>
</tr>
<tr>
<td>Aspirations X Sex</td>
<td>7.12**</td>
<td>-0.01</td>
<td>0.188</td>
</tr>
<tr>
<td>ST Exp. X Sex</td>
<td>3.854*</td>
<td>-0.05</td>
<td>0.138</td>
</tr>
<tr>
<td>LT Exp. X Sex</td>
<td>0.431</td>
<td>-0.512</td>
<td>0.046</td>
</tr>
<tr>
<td>Attitudes X Race</td>
<td>5.724**</td>
<td>0.017</td>
<td>-0.168</td>
</tr>
<tr>
<td>Aspirations X Race</td>
<td>2.382</td>
<td>-0.123</td>
<td>-0.109</td>
</tr>
<tr>
<td>ST Exp. X Race</td>
<td>2.951</td>
<td>-0.086</td>
<td>0.121</td>
</tr>
<tr>
<td>LT Exp. X Race</td>
<td>0.851</td>
<td>-0.356</td>
<td>-0.065</td>
</tr>
<tr>
<td>Per. Barriers X Race</td>
<td>11.75***</td>
<td>0.001</td>
<td>-0.241</td>
</tr>
<tr>
<td>Aspirations X SES</td>
<td>0.523</td>
<td>-0.470</td>
<td>-0.470</td>
</tr>
<tr>
<td>Per. Barriers X SES</td>
<td>22.986***</td>
<td>-0.0001</td>
<td>-0.337</td>
</tr>
<tr>
<td>Valuation X SES</td>
<td>5.704**</td>
<td>-0.017</td>
<td>0.168</td>
</tr>
</tbody>
</table>

Note: * p = <.05; ** p = <.01; *** p = <.001

Dependent Variables by SES, Sex and Race

Proposition two anticipated a relationship between the dependent variables and socioeconomic status, race and sex. The results of the tests of hypotheses five through fourteen partially support the anticipated relationships. Attitudes toward higher education and sex were
found to be independent. The majority of both men and women reported positive attitudes toward higher education. There was a statistically significant relationship between aspirations and sex (females have higher aspirations than males), short-term expectations for participation and sex (women have greater short-term expectations than men), attitudes and race (American Indians report more positive attitudes than non-Indians), perceived barriers and race (American Indians perceived more barriers than non-Indians), as well as perceived barriers and socioeconomic status (the lower the SES the greater the perception of barriers). The difference between attitudes by sex, long-term expectations by sex, aspirations by race, expectations for participation by race, and aspirations by socioeconomic status were not statistically significant.

**Valuation of Higher Education by SES**

Proposition three led to a hypothesized inverse relationship between valuation of higher education by socioeconomic status. The chi-square test of hypothesis fifteen was statistically significant and supports the hypothesis. Those who reported lower socioeconomic status were more likely to see higher education as an instrumental value (means to an end), while those who reported higher socioeconomic status were more likely to see higher education as a terminal value (an
Regression of Dependent Variables on Independent Variables

The results of the regression analyses indicate that one's attitudes toward higher education are influenced by one's aspirations for attaining a college education as well as by one's gender. Those with positive attitudes have aspirations for attainment. Gender is also influential. Women reported higher aspirations than men. Therefore, positive attitudes toward higher education may be predicted by gender and aspirations.

Aspirations for higher education in this sample are influenced primarily by attitudes, perceived family attitudes and race. The chi-square test for independence indicated no difference in aspirations by race, however the regression analysis indicates the probability of race influencing aspirations as $p = .05$. However, attitudes, family attitudes and race explain only thirty percent of the variance.

Summary

The individuals sampled have positive attitudes toward higher education and high aspirations for attaining a college degree, even though many of them perceive barriers which may lead to enrolling in college, dropping out and then dropping back in. Seventy-eight percent of those surveyed reported high attitudes toward higher education. The
aspirations of the sample were also quite high. Fifty-six percent of those surveyed reported high aspirations for higher education and forty-six percent reported a high perception of barriers to higher education. The majority of expect to go to college, in spite of the barriers they encounter.

Nine of the fifteen hypothesized relationships were statistically significant:

1) those with positive attitudes toward education perceive their family as also holding positive attitudes;
2) those with positive attitudes tend to have higher aspirations than those with less positive attitudes;
3) those with positive attitudes tend to hold higher expectations for participation in higher education than those with less positive attitudes;
4) women have higher aspirations than men;
5) more women than men expect to participate in higher education in the near future;
6) American Indians have more positive attitudes toward higher education than non-Indians;
7) American Indians perceive more barriers to higher education than non-Indians;
8) those with lower socioeconomic status tend to perceive greater barriers than those with higher socioeconomic status;
9) those with lower socioeconomic status are more likely to value higher education as an instrumental value, and those with higher socioeconomic status are more likely to value higher education as a terminal value.

Regression analysis revealed that attitudes toward higher education are significantly influenced by aspirations and gender. Similarly, aspirations are significantly influenced by attitudes, family values and, in this sample, race. One could predict that, if respondents were American Indian with positive attitudes toward higher education, they would also have high aspirations for attainment. Expectations have been defined as being more pragmatic than aspirations. The results of regression show that socioeconomic status does have a significant influence on one’s expectations for participation in higher education. The perception of barriers was significantly influenced by aspirations for attainment and socioeconomic status.
CHAPTER SIX

CONCLUSIONS, DISCUSSION, LIMITATIONS & RECOMMENDATIONS

Introduction

The purpose of this project was to learn more about the preferences of rural Americans in regard to education beyond high school. The objectives were: 1) to examine attitudes, aspirations, expectations and perceived barriers; 2) to determine if these variables differ by socioeconomic status, race, or sex; and 3) to determine the applicability of rational choice and growth motivation theory in explaining the findings of this study. These objectives were accomplished through a review of the literature, interviews with a random sample of a population living within a twenty-five mile radius of a rural university, and analyses of the findings.

Conclusions

The social, spiritual and economic order which guided tribal life in North America was permanently altered by the great migration from Europe to this continent. As the migration swept west, tribes were forced into economic dependency on the federal government. Tribal leaders envisioned the demise of their culture as a result of the great migration and the "manifest destiny" philosophy of the immigrants. The tribes perceived the need to protect their culture by mastering the
knowledge and skills of the invading population.

Alternative strategies for mastering these new ways, including outmigration to educational institutions, were carefully considered by tribal councils. Sending people out to school did not produce the anticipated results, therefore, tribes chose to develop a tribally-controlled system of higher education. The tribe in this study's target area successfully established a fully accredited, tribally-controlled university. The university has been conferring undergraduate and graduate degrees for twenty-six years.

In the sample surveyed, American Indians report more positive attitudes toward higher education than non-Indians. This variation in attitudes by race may be due, in part, to the ready access to higher education opportunities and the quality of education available through an accredited university. There may be a strong allegiance to the university among the American Indian population simply because it is an Indian school. The majority of this population believe in the value of higher education. They report positive attitudes, high aspirations, and the expectation of participation in a college degree program.

Women report higher aspirations and expectations than men. With college-degree programs now available in their local community, women are able to fulfill family and work obligations in addition to
completing a college degree. Those who reported less education and income value higher education as an important determinant of social mobility. Higher education is perceived as the ticket to new opportunities. Those who reported higher levels of education and more income value education as a process of personal growth and enlightenment.

American Indians reported a greater perception of barriers to higher education than non-Indians. The most critical barriers to higher education reported by the sample are: a) finances; b) family obligations; and c) information. The research literature cites access and location as the foremost barriers to higher education. The tribal university has changed the structure of access; therefore, it was not cited as a critical barrier by this rural population. The positive impact of the university is evidenced by the dramatic increase in levels of educational attainment.

The findings of this study support the theoretical assumptions of rational choice theory and growth motivation theory. The chain-of-response model, as adapted to this study, provides a theoretical framework for understanding the observed phenomena.

Discussion

The vision for developing a center of bicultural and bilingual higher education was proposed by tribal leader, Sinte Gleska in the
1870's (see Appendix C). One hundred years later, the tribe realized his vision and opened the doors to their own university. Since that time, the tribally-controlled university has become fully accredited, granted over 600 degrees, and developed a graduate program. Sinte Gleska’s vision and the tribe’s commitment to higher education have led to an increase in educational attainment among this rural population of American Indians and their non-Indian neighbors. The people interviewed for this study believe in the positive value of higher education. With the barrier of geographic access removed, aspirations for a college degree are high among this population. The majority expect to enroll in the local university or some other institution of higher education at some time in their lives. The findings reveal that this economically depressed, rural, bicultural population is attaining high school (81%) and college (22%) degrees at a rate which is approaching the national average of 86% high school completion and 27% college completion (US Department of Education, 1995).

Objectives of the Study

The first objective of this study was to examine the attitudes, aspirations, expectations, and perceived barriers of a population of rural Americans. The findings of this study led to the conclusion that rural adults have positive attitudes toward higher education, they aspire
to a college degree, and the majority expect to participate in higher education in the near or long term, in spite of the barriers they encounter.

Previous researchers have found that location, availability of degree programs, correct information and high aspirations are significant factors in the decision to enroll (Cross, 1991; Johnson, 1989; MacBrayne, 1995). Time, distance, money, and family obligations are the greatest barriers. MacBrayne (1995) found that ready access and familiar surroundings increase self-confidence and reduce the time and expense of travel and child care. This study supports these findings.

The study's target area includes one of the poorest counties in the United States. With the tribal university close by, access was not perceived as a barrier. However, half the population surveyed perceive other barriers. The significant barriers include: a) no money to pay for school, b) family obligations, c) transportation, d) lack of information, and, e) access to adequate financial aid. Having the money to pay for school and obtaining adequate financial aid were the most often cited barriers. The greatest barriers are perceived by American Indians, those reporting low SES and those with high aspirations.

The second objective was to determine if attitudes, aspirations, and expectations vary by socioeconomic status, sex or race. Previous
studies conclude that attitudes toward education influence behavior and are based on experience and the attitudes of one's reference group (Ajzen & Fishbein, 1980; Ellis, 1962; Haas, 1992; Haller & Virkler, 1993; Heath, 1992; Hektner, 1995; Rubenson, 1977). This study also found a significant relationship between personal attitudes and family attitudes. The majority reported positive attitudes regardless of socioeconomic status or gender.

The data show that American Indians hold more positive attitudes toward higher education than non-Indians. These positive attitudes are a reflection of the pride tribal people feel about what they have accomplished. Giago (1993: 1) writes,

The failure of mainstream colleges to educate Indian people has been the impetus for Indian post secondary institutions. Where mainstream institutions have failed, tribal colleges have succeeded. In the past, reservations have often been described as places of despair and hopelessness. Today, this description is inaccurate. Tribal colleges are improving lives and giving hope to tribal people. As one Lakota student said of the college on her reservation, 'This college is the best thing that
could have happened to the reservation.’

The majority of the population have aspirations for attainment of higher education, as well as the expectation that they will participate at some time in their lives. There is no difference in aspirations by race or socioeconomic status. The only difference in aspirations is between men and women. These conclusions do not support the studies that found low aspirations among rural populations and low socioeconomic subgroups (Cobb, McIntire & Pratt, 1989; Haller & Virkler, 1993; McCaul, 1989; Wright, 1991). The high aspirations reported by this population are a result of the accessibility of a local university.

Women have higher aspirations and greater short-term expectations for participation than men. Heath (1992) attributed higher aspirations among women to a growing lack of faith in marriage as a beneficial opportunity. Women's roles today are very different than the past. Changes in women's roles and circumstances may be responsible for higher aspirations and enrollment. Researchers have explained the phenomena by the decline of traditional female roles, lower fertility, rising divorce rates and greater participation in the labor force (Cross, 1991; Esposito, Hackett & O'Halloran, 1987; Heath, 1992; Karen, 1991; Trow, 1989). The changes in men's roles have been less dramatic.
The significant increase in the numbers of women enrolling in college has also been explained by Cross (1991) and Solomon, Gordon & Ochsner (1979). They found that life transitions influence the decision to enroll in college. Women who dropped out of college to marry and raise children later realized the need for a college education and dropped back in. Groop (1993: 15) reports the experience of one mother who decided to pursue her college degree:

'Indian people don’t just jump into things mentally. We need to observe and look things over. The classes here work with our strengths.'

Before Christmas, two of [her] children had chicken pox. Sandy stayed home with the kids. Leonard [her husband] brought home notes and assignments for Sandy so she could keep up with the class. When her baby was born during Christmas vacation two years later, the couple’s baby-sitter quit. Instead of missing classes for the next semester, Sandy tied the baby to a cradle board and brought her to class...the baby was passed around from table to table...The whole class wants to see you succeed so they do what they can to make your situation easier.

The women interviewed for this study expressed a strong
desire to serve as role models for their children and other family members by attaining their college degrees. In South Dakota, women represent two-thirds of the tribal college student population.

In recent years, women have been expressing more interest in learning than men (Bayley, 1992; Bess, 1992; Heath, 1992; Johnson, 1989). Historically, rural women have not had access to a college or university. Today, this population of Indian and non-Indian women report high expectations for participation because of the opportunities available to them through the tribal university.

Studies on the valuation of higher education have found that lower socioeconomic subgroups value higher education as a means of obtaining a higher paying job (Cross, 1991; Johnstone & Rivera, 1965). The findings of the present study support this conclusion. Educational values vary by socioeconomic status. Respondents who reported low socioeconomic status tend to value higher education as an important determinant of social mobility. They are seeking the education and experience necessary to move up the job ladder and provide a better living for their families. Those who reported high socioeconomic status did not indicate the same concern with social mobility. They value higher education as an opportunity for enlightenment and personal growth.
The final objective of this study was to determine whether or not rational choice theory and growth motivation theory are useful in explaining the attitudes, aspirations, expectations, and perceived barriers of rural people. The theoretical framework outlined in Chapter III also considered the "chain-of-response" (COR) model developed by Cross (1991) as a framework for the integration of rational choice and growth motivation theory.

The process by which individuals and groups weigh the consequences of several alternative actions against each other and select the option which is most advantageous summarizes the basic approach of rational choice theory (Baanders, 1996). The fact that people are not always in a position to maximize utility because of the situational constraints which confine behavioral options is the foundation of growth motivation theory. The integration of these approaches within the framework of the COR model sheds light on the educational preferences of rural people.

The findings of this study are consistent with an adaptation of the chain-of-response model (Cross, 1991). This model (Figure 4) provides a framework for understanding how an integration of the theoretical assumptions of rational choice theory and growth motivation theory may explain the phenomena observed in this study. Cross's
model was modified by changing two concepts. "Life transitions" was changed to "Environment" and "Self-evaluation" was changed to "Aspirations."

Figure 4. Determinants of a Preference for Higher Education

1) Interactions indicated by the arrows in the model are indicative of considerations of the consequences of a variety of alternative actions. The process of weighing the alternatives and selecting the most advantageous path may begin at any point in the model.

2) Beginning at point A, the model suggests that Aspirations (A) interact with Attitudes (B). For the purposes of this study,
aspirations for higher education are defined as strong desires or dreams of what one can become. Attitudes toward higher education are conceptualized as beliefs and values. The literature review as well as the findings of this study indicate that one’s attitudes reflect the feelings, perceptions and motivations of the family and the community.

The sample of rural people interviewed for this project hold very positive attitudes toward higher education. They believe in the benefits of continuing one’s education beyond high school and perceive their family and community as having the same beliefs. Those who report lower socioeconomic status are more likely to view a college education as a way to improve their station in life, while those with higher socioeconomic status are more likely to view a college education as a process of personal growth and development. The majority of the sample aspire to attainment of higher education.

Growth motivation theory assumes that deficiency (survival) needs supersede growth needs. According to Maslow’s (1962) “hierarchy of needs,” aspirations for education will vary by deficiency motivation or growth motivation. As deficiency needs diminish, the group will prioritize choices which lead to social
mobility (Lenski, 1984; Maslow, 1962). Rokeach (1975) and Emerson (1981) propose a similar concept in their discussion of the adaptation of values to the environment.

According to the assumptions of rational choice theory, attitudes \( (B) \) and aspirations \( (A) \) are based on the careful consideration of the available information \( (F) \), environmental constraints \( (D) \), and the calculation of which behaviors will prove to be beneficial (Emerson, 1981; Turner, 1991). By applying these theoretical insights to the findings of this study, one may conclude that the attitudes of this population toward the higher education are based on a rising level of growth motivation in the social system, educational preferences, and improved access to pertinent information.

3) Expectations \( (C) \) interact with aspirations \( (A) \) and attitudes \( (B) \). and are influenced by the environment \( (D) \). Expectations are defined as more pragmatic and down-to-earth than aspirations. Expectations take the environment into consideration. Therefore, expectations for participation in higher education are based on the need to meet deficiency needs or growth needs.

This interaction is explained by rational choice theory as the weighing of the costs and benefits or consideration of the
most advantageous course of action. If the determination is made that educational goals are likely to be achieved, then expectations will be high. If it is determined that success is in doubt, the expectations will diminish.

Expectations (C) also interact with the opportunities and barriers (E) which play an important role in making the decision to participate. Special opportunities or resources for overcoming barriers increase the likelihood of participation. In this population the expectation of successful participation has been increased by the reduction of situational and cultural barriers.

4) Information (F) influences opportunities and barriers (E). The decision to develop a university, as well as the decision to participate in higher education, is dependent on access to information and the correct interpretation of information about opportunities and needed resources. Adequate information continues to be a concern for this population. A need exists for more information regarding personal aptitudes and access to financial aid.

5) As depicted in the model, participation experiences (G) influence aspirations (A) and attitudes (B). This relationship is consistent with the research findings that show that people
who have participated in education are more likely to participate in the future—presumably because participation creates positive attitudes toward education and leads to higher expectations of success. In this sample, positive attitudes toward higher education were independent of level of educational attainment. The establishment of the tribal university and positive attitudes toward higher education among this population are an indication of the tribe's change in focus to growth motivation. Those reporting high socioeconomic status valued higher education as a terminal value or an end in itself, which is consistent with a shift to the satisfaction of growth motivation needs. Those reporting lower socioeconomic status valued higher education as an instrumental value or a means to an end, which is an indication of a continuing need to satisfy some deficiency needs during the transition to growth motivation.

The integration of rational choice and growth motivation assertions within the framework of the COR model explains the interactive relationship between attitudes, aspirations, expectations, and perceived barriers. Rational choice theory explains how the preference for higher education among this population is rational and based on a weighing of costs and benefits. The aggregate of these attitudes, aspirations, and
expectations is evidenced by: a) seventy-eight percent of the sample reporting strong positive attitudes; b) fifty-six percent of those interviewed aspiring to a college degree; and c) the unified political mobilization of the tribes through the American Indian Higher Education Consortium (AIHEC).

Growth motivation theory explains how decisions regarding participation in higher education are based on whether or not deficiency needs have been satisfied and whether the individual or group is ready to meet growth needs. The establishment of the tribal university is a clear indication of a shift toward the satisfaction of higher order needs. As the tribe began to satisfy their deficiency needs, the tribal leadership focused on more enduring strategies to ensure the survival of the people and the American Indian culture. In his prepared statement to the US Senate Committee on Indian Affairs (see Appendix D), the tribal university president from this study’s target area stated, “Survival is our goal. Education is our strategy.”

Summary

The social, spiritual and economic systems which governed the daily lives of the American Indian tribes were destroyed, in part, by the great migration from Europe to this continent. In a very short time, tribes were pushed from the top of Maslow’s hierarchy of needs to the very bottom. For decades, tribal people were forced to be motivated by
deficiency needs. Today, the motivation to meet growth needs is becoming more evident throughout the population.

Prior to the great migration of Europeans to this continent, basic education was an integrated facet of rural and tribal life. For American Indians, educational methodology was guided by the tribal leaders, parents, and elders. Education did not occur in the structured, institutional environment that was common to the European immigrants. As the tribes were subjugated by the immigrant population and forced to participate in a foreign educational process, they did not perceive the system as advantageous. The values and methods were found wanting, not education in and of itself. Thus, American Indians have not aspired to attain the education offered by the dominant culture.

Nevertheless, rural Americans, both Indian and non-Indian, want a higher education. They have the same high value for education that pervades society in general. As the tribal system has begun to recover from the harsh consequences of a foreign invasion, tribal leaders have made the vision of growth motivation a reality for their own people, as well as non-Indian people living on or near the reservation.

Historically, American Indian students have enjoyed little success in mainstream higher education. The explanation for the high expectations for participation among the target population for this study is the
development of an accessible rural tribal university. It was not rational, for this population to enroll in a system of higher education in which success was doubtful. Therefore, the people chose a more advantageous course of action and developed their own accredited tribal university. The introduction of this opportunity in a rural setting changed the structure of access for the population. As a result, the cost\benefit calculation shifted and the expectation of successful attainment of a college degree has increased.

The history of tribal college development supports the assumptions of rational choice theory. American Indians have cultural and educational preferences that differ from those of the dominant culture. For tribal people, the costs of participating in mainstream higher education have been greater than the benefits. Therefore, the tribes have maximized the benefits of higher education by developing their own college and university system. In the context of this tribally-controlled system, American Indians report more positive attitudes toward higher education than their non-Indian neighbors.

Non-Indian rural residents have also benefited from the removal of the geographical barrier of access to higher education. They have responded positively to this new opportunity, as evidenced by an average non-Indian enrollment of twenty-four percent during spring and fall
semesters and fifty percent in the summer sessions. This study found that aspirations and expectations were independent of race. Establishing this rural institution of higher education clearly had an impact on the population.

Implications

Anyone who is concerned with improving higher education opportunities for rural Americans and increasing participation in tribal colleges can benefit from the insights gained from the findings of this study. American Indians, especially women, living in this geographically remote area want a college education. It is important to parents that their children attain a college education. These rural citizens, with the support of the tribal council, chose to develop an institution of higher education that would meet the unique needs of their people. The positive response from the community is evidenced by a twenty-six year history of growing enrollment and increasing levels of educational attainment.

This venture has been successful. The university is accredited and in good standing. Yet, tribal colleges have not achieved parity in federal funding. It would benefit tribal colleges, such as this one, if the federal government increased their financial support to an equitable level; a level that would support ongoing development. Efforts to raise
awareness of the opportunities and to encourage more participation in higher education among rural residents must continue.

Limitations of the Study

This research has several limitations. First, the sample was drawn from a single population of residents living in close proximity to a rural university. The sample met the assumptions of a random sample; therefore, the findings can be generalized to the population. However, because rural communities can be very different and tend to have their own unique situational constraints, generalizing the findings to other rural populations should only be done with caution.

Second, this study is a one shot look at a population served by one stable tribal university. Historic knowledge of aspirations, attitudes, expectations and perceived barriers can only be inferred from demographic data on levels of educational attainment and enrollment data. The President of the university has been with the school for twenty-six years. Populations served by more recently established, less stable schools may look very different.

Finally, the amount of variance in aspirations (30%), expectations (1%), and perceived barriers (16%) explained by these analyses leaves much to be discovered. Additional variables need to be identified and tested. Further evaluation of this and future data using path analysis
would be appropriate for examining the direct and indirect effects of variables.

**Suggestions for Future Research.**

The findings of this research have pointed to areas where additional research may be fruitful. A replication of this study with comparative study samples living at varying distances outside the twenty-five mile radius would contribute to a greater understanding of the educational preferences of rural people.

A qualitative study utilizing in-depth interview techniques may reveal additional variables that influence aspirations for attainment of a college education, expectations for participation and the perception of barriers. This approach would lead to a more broad-based, emic perspective of what is important to rural populations rather than what is important to outside experts.

The rational choice principles of satiation and diminishing marginal utility were not tested in this project. Biennial follow-up studies could identify changes in attitudes, aspirations, expectations, perceived barriers and college enrollment levels that may be explained by these theoretical principles.
BIBLIOGRAPHY


Equity in Educational Land Grant Status Act. (1993). Hearing on S. 1345 To Provide Land Grant Status for Tribally Controlled Community Colleges, before the Committee on Indian Affairs. United States Senate, One Hundred Third Congress, First Session. Nov. 18: 1-84.


Heath, T. (1992). "Predicting the Educational Aspirations and 
Graduate Plans of Black and White College and University Students: 
When do Dreams Become Realities?" Paper presented at the Annual 
Meeting of the Association for the Study of Higher Education. 
Minneapolis, MN.

Adolescents Conflict in the Transition to Adulthood." Journal of 
Research in Rural Education. 11, 1: 13-14.

New Directions for Community Colleges. 90. San Francisco, CA: 

Almanac: A Portrait of Native America Today. New York, NY: 
Prentice Hall General Reference.

Academic Aspirations of the Older Adult Community College Student 
as Perceived by the Older Adult Student. Ed.D. Dissertation, 
Vanderbilt University.

Chicago: Aldine.

Higher Education in the US, 1960-86.” American Journal of 
Education. 208-233.

Directions for Community Colleges, Number 90. New Directions for 
Community Colleges, (23) 2, Summer, Los Angeles, CA . Jossey- 
Bass.

NY: St. Martin's Press.

Press.


Appendix A
Survey of Educational Attitudes, Aspirations, Expectations & Barriers

The following information is being collected as part of a study of rural people's attitudes toward education beyond high school, the type and amount of education they would like to achieve and barriers people experience when seeking further education. Your participation in this research is being requested in order to achieve a better understanding of what people living in rural areas believe about higher education.

Detailed information on the goals and design of this project are available at the office of Marta Brosz, 310 S First Ave., Sioux Falls, S.D. 57104, (605) 336-2556. No personal identifying information will be recorded. Your responses will be held in the strictest professional confidence.

Educational Attitudes:

SD = 1     D = 2     Neither A or D = 3     A = 4     SA = 5

1.1 "I think it is important to go to college."

2.1 "My family believes getting a college degree is a good thing to do."

3.1 "Going to college is worth it because I could get a better job."

4.1 "It would be good to go to college, but it would be better to just get a job."

5.1 "It is important for children growing up today to get a college education."
6.1 "I would feel good about myself if I got my college degree."

7.1 "The time and money you spend on a college education is well worth it."

8.1 "Attending a local college that is sensitive to Native American issues is important to me."

9.1 "Going to college is the best way to gain the knowledge and skills you need in today's world."

10.1 "The development of the tribal university has been a good investment for the community."

Educational Aspirations:

11.1 "Have you attended: 1) college; 2) community college; 3) vocational school; or 4) other type of higher education?"

12.1 "If you attended one of the above, did you finish the program and receive a degree or certificate?" 1) yes; 2) no; 3) if not, why not?

13.1 "During the next year or two what will you probably do?" 1) get a job; 2) go to college; 3) stay at home; 4) join the military; 5) get married; 6) keep working; 7) travel; 8) move away; 9) take care of family; 10) don't know; 11) other...

14.1 "Think about what you would like to do with your life. Would you like more education or do you think you have had enough?" 1) would like more; 2) have had enough.
15.1 “If you want more schooling, which of the following will you probably pursue?” 1) vocational school; 2) local tribal college; 3) college out of town; 4) graduate school; 5) other.

16.1 “I would like to attend the local tribal university.” 1) SD; 2) D; 3) Neither A or D; 4) A; 5) SA.

17.1 “Why or why not?”

18.1 “I would like to attend a larger state or private college.” 1) SD; 2) D; 3) Neither A or D; 4) A; 5) SA.

19.1 “Why or why not?”

Barriers to Higher Education:

SD =1 D = 2 Neither A or D = 3 A = 4 SA = 5

20.1 “It would be hard for me to get enough money to go to college.”

21.1 “Obligations to family and relatives could interfere with going to school.”

22.1 “Transportation can be difficult out in this part of the country. It would be hard to get the money to pay for gas to go to classes.”

23.1 “I need advice to find out what I am good at and what I should study in college.”

24.1 “College is so expensive. I am not sure getting a degree is worth what it costs.”

25.1 “The things I want to study are not available at colleges.”
26.1 “I would like to be able to find the money to go to college.”

Only for respondents providing child care in their home:

27.1 “I would attend college if there were a daycare I could afford for my children.”

28.1 I have friends or family that would help me with the kids if I wanted to go to school.”

29.1 “Even if daycare were available, I do not think taking time away from my children and family to go to school would be a good idea right now.”

30.1 “My friends or relatives would have to help me with rides if I went to school.”

31.1 “It would be better for me to go to school here at the tribal university than to try to go away to a different school.”

32.1 “What do you think is the greatest benefit of a college education?”

1) means to an end; 2) an end in itself.

Demographic Information:

1.2 Sex: 1) male; 2) female

2.2 Marital Status: 1) single; 2) married; 3) separated; 4) widowed; 5) divorced.

3.2 “How long have you lived in this community?” 1) less than one year; 2) 1-3 years; 3) 3-5 years; 4) more than 5 years.
4.2  “Are you employed?”  1) full time (> 20 hours); 2) part-time (< 20 hours); 3) not employed.

5.2  (If employed) “Does your job require ongoing education?”  1) yes; 2) no.

6.2  “Would you say you are: 1) employed and satisfied with your job; 2) employed but looking for a better job; 3) not employed and satisfied with what you are doing; 4) not employed and looking for work?”

7.2  “What is the highest level of education you have completed?”
     1) grade school or less; 2) some high school; 3) GED; 4) high school graduate; 5) job training other than college; 6) some college; 7) college degree; 8) graduate school.

8.2  “What is your age?”

9.2  “Are you American Indian or non-Indian?”

10.2 “What is the highest level of education attained by your parents or the people you grew up with?”

11.2 “What is your best estimate of your income last year?”
     1) less than $5000; 2) more than $5000; 3) more than $10,000; 4) more than $20,000; 5) more than $30,000; 6) more than $40,000; 7) more than $50,000
12.2 "How many children make their home with you?"  1) 0;
    2) 1-2; 3) 2-4; 4) 5-6; 5) 7-8; 6) 9-10+

Thank you very much for your time and cooperation.
Appendix B
Regression Analysis: Dependent Variable = Attitudes Toward Education

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>547.914</td>
<td>1</td>
<td>547.914</td>
<td>341.492</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>319.290</td>
<td>199</td>
<td>1.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>867.204</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>613.655</td>
<td>2</td>
<td>547.914</td>
<td>341.492</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>253.549</td>
<td>198</td>
<td>1.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>867.204</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Regression</td>
<td>620.007</td>
<td>3</td>
<td>547.914</td>
<td>341.492</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>247.197</td>
<td>197</td>
<td>1.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>867.204</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Attitudes  
b. Independent Variables: (Constant), Family Beliefs  
c. Independent Variables: (Constant), Family Beliefs, Aspirations  
d. Independent Variables: (Constant), Family Beliefs, Aspirations, Sex

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>8.671</td>
<td>.508</td>
<td></td>
<td>17.083</td>
<td>.000</td>
</tr>
<tr>
<td>Fam. Bel.</td>
<td>2.104</td>
<td>.114</td>
<td>.795</td>
<td>18.480</td>
<td>.000</td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>5.127</td>
<td>.671</td>
<td></td>
<td>17.083</td>
<td>.000</td>
</tr>
<tr>
<td>Fam. Bel.</td>
<td>1.877</td>
<td>.107</td>
<td>.709</td>
<td>18.480</td>
<td>.000</td>
</tr>
<tr>
<td>Aspirations</td>
<td>.268</td>
<td>.037</td>
<td>.288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (Constant)</td>
<td>5.009</td>
<td>.666</td>
<td></td>
<td>7.517</td>
<td>.000</td>
</tr>
<tr>
<td>Fam. Bel.</td>
<td>1.887</td>
<td>.106</td>
<td>.713</td>
<td>17.870</td>
<td>.000</td>
</tr>
<tr>
<td>Aspirations</td>
<td>.260</td>
<td>.037</td>
<td>.279</td>
<td>6.964</td>
<td>.000</td>
</tr>
<tr>
<td>Sex</td>
<td>.367</td>
<td>.163</td>
<td>.086</td>
<td>2.250</td>
<td>.026</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Attitudes
## Excluded Variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta In</th>
<th>t</th>
<th>Sig.</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SES</td>
<td>-.035&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-.812</td>
<td>.418</td>
</tr>
<tr>
<td></td>
<td>Aspire</td>
<td>.288&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.165</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Barriers</td>
<td>.120&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.836</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>Race</td>
<td>-.077&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-1.782</td>
<td>.076</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td>.114&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.688</td>
<td>.008</td>
</tr>
<tr>
<td>2</td>
<td>SES</td>
<td>-.014&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-.352</td>
<td>.725</td>
</tr>
<tr>
<td></td>
<td>Barriers</td>
<td>.054&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.372</td>
<td>.172</td>
</tr>
<tr>
<td></td>
<td>Race</td>
<td>-.019&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-.490</td>
<td>.625</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td>.086&lt;sup&gt;c&lt;/sup&gt;</td>
<td>2.688</td>
<td>.026</td>
</tr>
<tr>
<td>3</td>
<td>SES</td>
<td>-.024&lt;sup&gt;d&lt;/sup&gt;</td>
<td>-.628</td>
<td>-.045</td>
</tr>
<tr>
<td></td>
<td>Barriers</td>
<td>.052&lt;sup&gt;d&lt;/sup&gt;</td>
<td>1.372</td>
<td>.093</td>
</tr>
<tr>
<td></td>
<td>Racee</td>
<td>-.017&lt;sup&gt;d&lt;/sup&gt;</td>
<td>-.432</td>
<td>-.031</td>
</tr>
</tbody>
</table>

---

- **a.** Dependent Variable: Attitudes
- **b.** Independent Variables in the Model: (Constant), Family Beliefs,
- **c.** Independent Variables in the Model: (Constant), Family Beliefs, Aspirations
- **d.** Independent Variables in the Model: (Constant), Family Beliefs, Aspirations, Sex
- **e.** This variable is not added to the model because PIN = .050 limits reached.
Regression Analysis: Dependent Variable = Aspirations for Higher Education

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>250.066</td>
<td>1</td>
<td>250.066</td>
<td>66.422</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>752.963</td>
<td>200</td>
<td>3.765</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1003.030</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>277.458</td>
<td>2</td>
<td>138.729</td>
<td>38.049</td>
<td>.000c</td>
</tr>
<tr>
<td>Residual</td>
<td>725.572</td>
<td>199</td>
<td>3.646</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1003.030</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Regression</td>
<td>298.297</td>
<td>3</td>
<td>99.432</td>
<td>27.936</td>
<td>.000d</td>
</tr>
<tr>
<td>Residual</td>
<td>704.732</td>
<td>198</td>
<td>3.559</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1003.030</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Aspirations
b. Independent Variables: (Constant), Attitudes
c. Independent Variables: (Constant), Attitudes, Family Beliefs
d. Independent Variables: (Constant), Attitudes, Family Beliefs, Race

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>7.315</td>
<td>1.188</td>
<td>.499</td>
<td>6.159</td>
</tr>
<tr>
<td></td>
<td>Attitudes</td>
<td>.537</td>
<td>.066</td>
<td></td>
<td>8.150</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>6.550</td>
<td>1.202</td>
<td>.715</td>
<td>5.450</td>
</tr>
<tr>
<td></td>
<td>Attitudes</td>
<td>.769</td>
<td>.107</td>
<td>.999</td>
<td>7.209</td>
</tr>
<tr>
<td></td>
<td>Fam. Beliefs</td>
<td>-.774</td>
<td>.282</td>
<td>-.272</td>
<td>-2.741</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>7.274</td>
<td>1.224</td>
<td>.687</td>
<td>5.941</td>
</tr>
<tr>
<td></td>
<td>Attitudes</td>
<td>.738</td>
<td>.106</td>
<td>.687</td>
<td>6.952</td>
</tr>
<tr>
<td></td>
<td>Fam. Beliefs</td>
<td>-.759</td>
<td>.279</td>
<td>-.267</td>
<td>-2.720</td>
</tr>
<tr>
<td></td>
<td>Race</td>
<td>-.685</td>
<td>.283</td>
<td>-.146</td>
<td>-2.420</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Aspirations
Excluded Variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta In</th>
<th>t</th>
<th>Sig.</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Family Bel.</td>
<td>-.272b</td>
<td>-2.741</td>
<td>.007</td>
<td>-.191</td>
</tr>
<tr>
<td>Race</td>
<td>.150b</td>
<td>-2.442</td>
<td>.015</td>
<td>-.171</td>
</tr>
<tr>
<td>Sex</td>
<td>.041b</td>
<td>.667</td>
<td>.505</td>
<td>.047</td>
</tr>
<tr>
<td>SES</td>
<td>-.061</td>
<td>-.997</td>
<td>.320</td>
<td>-.070</td>
</tr>
<tr>
<td>2 Race</td>
<td>-.146c</td>
<td>-2.420</td>
<td>.016</td>
<td>-.169</td>
</tr>
<tr>
<td>Sex</td>
<td>.017c</td>
<td>.272</td>
<td>.786</td>
<td>.019</td>
</tr>
<tr>
<td>SES</td>
<td>-.052c</td>
<td>-.873</td>
<td>.384</td>
<td>-.062</td>
</tr>
<tr>
<td>3 Sex</td>
<td>.011d</td>
<td>.188</td>
<td>.851</td>
<td>.013</td>
</tr>
<tr>
<td>SES</td>
<td>.007d</td>
<td>.111</td>
<td>.912</td>
<td>.008</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Aspirations
b. Independent Variables in the Model: (Constant), Attitudes
c. Independent Variables in the Model: (Constant), Attitudes, Family Beliefs
d. Independent Variables in the Model: (Constant), Attitudes, Family Beliefs, Race
e. This variable is not added to the model because PIN = .050 limits reached.
Regression Analysis: Dependent Variable = Expectations

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>28.513</td>
<td>1</td>
<td>28.513</td>
<td>13.683</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>412.607</td>
<td>198</td>
<td>2.084</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>441.120</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>42.530</td>
<td>2</td>
<td>21.265</td>
<td>10.510</td>
<td>.000c</td>
</tr>
<tr>
<td>Residual</td>
<td>398.590</td>
<td>197</td>
<td>2.023</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>441.120</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Expectations for Participation
b. Independent Variables: (Constant), Aspirations
c. Independent Variables: (Constant), Aspirations, SES

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>7.315</td>
<td>1.188</td>
<td></td>
<td>6.159</td>
<td>.000</td>
</tr>
<tr>
<td>Attitudes</td>
<td>.537</td>
<td>.066</td>
<td>.499</td>
<td>8.150</td>
<td>.000</td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>6.550</td>
<td>1.202</td>
<td></td>
<td>5.450</td>
<td>.000</td>
</tr>
<tr>
<td>Attitudes</td>
<td>.769</td>
<td>.107</td>
<td>.715</td>
<td>7.209</td>
<td>.000</td>
</tr>
<tr>
<td>Fam. Beliefs</td>
<td>-.774</td>
<td>.282</td>
<td>-.272</td>
<td>-2.741</td>
<td>.007</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Expectations for Participation

Excluded Variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta In</th>
<th>t</th>
<th>Sig.</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SES</td>
<td>.179a</td>
<td>2.632</td>
<td>.009</td>
<td>.184</td>
</tr>
<tr>
<td>Family Bel.</td>
<td>.056a</td>
<td>.771</td>
<td>.441</td>
<td>.055</td>
</tr>
<tr>
<td>Attitudes</td>
<td>.003a</td>
<td>.043</td>
<td>.966</td>
<td>.003</td>
</tr>
<tr>
<td>Barriers</td>
<td>.003a</td>
<td>.038</td>
<td>.970</td>
<td>.003</td>
</tr>
<tr>
<td>Race</td>
<td>.073a</td>
<td>1.025</td>
<td>.307</td>
<td>.073</td>
</tr>
<tr>
<td>Sex</td>
<td>-.011a</td>
<td>-.157</td>
<td>.876</td>
<td>-.011</td>
</tr>
<tr>
<td>2 Family Bel.</td>
<td>.053b</td>
<td>.751</td>
<td>.453</td>
<td>.054</td>
</tr>
<tr>
<td>Attitudes</td>
<td>.004b</td>
<td>.049</td>
<td>.961</td>
<td>.004</td>
</tr>
<tr>
<td>Barriers</td>
<td>.070b</td>
<td>.942</td>
<td>.348</td>
<td>.067</td>
</tr>
<tr>
<td>Race</td>
<td>-.008b</td>
<td>-.106</td>
<td>.915</td>
<td>-.008</td>
</tr>
<tr>
<td>Sex c</td>
<td>-.033b</td>
<td>-.487</td>
<td>.627</td>
<td>-.035</td>
</tr>
</tbody>
</table>

a. Independent Variables in the Model: (Constant), Aspirations
b. Independent Variables in the Model: (Constant), Aspirations, SES
c. This Variable is not added to the model because PIN = .050 limits reached.
Regression Analysis: Dependent Variable = Perceived Barriers

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>314.435</td>
<td>1</td>
<td>314.453</td>
<td>25.118</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>2491.187</td>
<td>199</td>
<td>12.519</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2805.622</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>42.530</td>
<td>2</td>
<td>233.785</td>
<td>19.798</td>
<td>.000c</td>
</tr>
<tr>
<td>Residual</td>
<td>398.590</td>
<td>198</td>
<td>11.808</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>441.120</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Perceived Barriers
b. Independent Variables: (Constant), SES
c. Independent Variables: (Constant), SES, Aspirations

table

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>16.336</td>
<td>.250</td>
<td>.250</td>
<td>65.452</td>
<td>.000</td>
</tr>
<tr>
<td>SES</td>
<td>-.778</td>
<td>.155</td>
<td>-.335</td>
<td>-5.012</td>
<td>.000</td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>9.698</td>
<td>1.859</td>
<td>5.217</td>
<td>5.217</td>
<td>.000</td>
</tr>
<tr>
<td>SES</td>
<td>-.736</td>
<td>.151</td>
<td>-.317</td>
<td>-4.867</td>
<td>.000</td>
</tr>
<tr>
<td>Aspirations</td>
<td>.392</td>
<td>.109</td>
<td>.234</td>
<td>3.601</td>
<td>.007</td>
</tr>
</tbody>
</table>

Excluded Variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
<th>Partial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Aspirations</td>
<td>.234b</td>
<td>3.601</td>
<td>.000</td>
<td>.184</td>
</tr>
<tr>
<td>Family Bel.</td>
<td>.065b</td>
<td>.973</td>
<td>.332</td>
<td>.055</td>
</tr>
<tr>
<td>Attitudes</td>
<td>.160b</td>
<td>2.420</td>
<td>.016</td>
<td>.003</td>
</tr>
<tr>
<td>Race</td>
<td>-.127b</td>
<td>-1.720</td>
<td>.087</td>
<td>.003</td>
</tr>
<tr>
<td>Sex</td>
<td>.095b</td>
<td>1.415</td>
<td>.159</td>
<td>.073</td>
</tr>
</tbody>
</table>

| 2 Family Bel. | -.005c| -.074  | .941  | -.005               |
| Attitudes    | .058c | .769    | .443  | .055                |
| Race         | -.073c| -.982   | .327  | -.070               |
| Sex          | .071c | 1.077   | .283  | .077                |

a. Dependent Variable: Perceived Barriers
b. Independent Variables: (Constant), SES
c. Independent Variables: (Constant), SES, Aspirations
d. This variable is not added to the model because PIN = .050 reached.
Appendix C
A History of Sinte Gleska (Spotted Tail) 1823-1881

Sinte Gleska was born near the Makizita Wakpa (White River) in west central South Dakota in the Winter of 1823-24, “The Year When They Camped Near a Cornfield Because of the Severe Winter (Big Missouri Winter Count).” His father was called Tangle Hair and his mother was known as Cannupa Yuha Mani Win (Walks with a Pipe Woman). He belonged to one of the southern bands of the powerful Sicangu Nation (Burnt Thigh).

As a boy Sinte Gleska was called Tatanka Napsica (Jumping Buffalo). When he achieved warrior status he was named Sinte Gleska. This name had been given to him because he often wore a raccoon tail, obtained as a gift from a fur trapper, when dressed for war and ceremonies.

Sinte Gleska rose to prominence at about the age of thirty when he was installed as an Ogle Tanka Un (Shirt Wearer) or a war leader. His credentials for achieving this honor were impressive. His shirt was said to have been adorned with over a hundred locks of hair and insignia, each representing coups, scalps taken and horses captured. As war leader of the Southern Sicangu, Sinte Gleska was actively involved in earlier struggles with the Wasicu (white man) over their aggression and encroachments of Sicangu territory. During his tenure as shirt
wearer, in 1855, Sinte Gleska helped bring about the end of the brief, but costly, Overland Trail War by surrendering himself, along with four others, to be imprisoned at Fort Leavenworth, Kansas. This occurred when the US Military held seventy Sicangu captive (mostly women and children taken at the Blue Water Fight in 1855) as bargaining chips to compel the speedy surrender of the leaders and participants involved in the slaying of Grattan's command and raids on the Overland Trail.

Sinte Gleska's surrender and ordeal of imprisonment led the people to view this as an unselfish sacrifice for the good of the tribe and they continued to follow him as war leader. Furthermore, eleven years after his release from Fort Leavenworth, the Southern Sicangu remembered and elevated Sinte Gleska, now an experienced leader, to Wicasa Itancan (civil leader), the highest leadership ranking found among Sicangu.

The impact of Sinte Gleska's leadership during the 1860's on the southern band of the Sicangu was immediate and effective. He, with the full support of the tribal council, united these fragmented bands into a cohesive unit and steered their course toward a limited degree of tolerating and accepting the presence of the Wasicu and the acculturation policies. At the close of the 1870's, Sinte Gleska extended his influence
over the northern Sicangu bands when their leaders were finally pressured by the US Government to reside on the Great Sioux Reservation with Sinte Gleska as the overall leader.

The closing years of Sinte Gleska's life are considered the most significant in terms of contributions made to the Sicangu Lakota, and quite possibly Native Americans in general. It was during these years that he began to look at long range goals and the struggles that the Sicangu people were to endure. As one of the important Lakota leaders, Sinte Gleska, viewed his people from the highest position and perspective. Viewing the people from this level and dealing with the US Government at its highest level, the Sicangu Itancan (leader) caught a brief glimpse of the future of the Sicangu.

What he foresaw in the twentieth century due to the deteriorating condition of the Lakota and the extremely aggressive policies of the US Government was shocking. Based on his observation and his reaction, Sinte Gleska revealed that unless the Lakota were able to cope with this situation, they would not survive as a people. This need for survival prompted him to stress and advocate the idea of accepting the minimal, but basic, aspects of the Wasicu tool for survival in a white dominated world. He optimistically envisioned that a certain portion of the Lakota
population would master the Wasicu’s basic skills of learning and eventually these people could supplant the “untrustworthy” Wasicu working in the capacities of clerks, translators and other agency officials. This would then ensure the survival of the Lakota. Sinte Gleska faced difficult obstacles in carrying out his idea for survival in the white dominated world. These were: to sell and implement the ‘radical’ idea to a people divided by an atmosphere of suspicion, fear and jealousy.

When Captain R.H. Pratt came to the Rosebud Reservation in 1879 to recruit pupils for his new Indian boarding school at Carlisle, Pennsylvania, he encountered resistance to his idea of sending Lakota children off the reservation for education. He appealed directly to Sinte Gleska, the titular head of the Lakota nation and leader of the Sicangu, for help in educating the Sicangu. Sinte Gleska supported his effort and took his idea of support to the tribal council in an open meeting. Sinte Gleska offered four of his children and two grandchildren to be schooled at Carlisle. The other headsmen and chiefs supported his effort by offering to send 28 of their children and grandchildren to Carlisle. Sinte Gleska sent the following children and grandchildren to Carlisle: Red Road (daughter), age 18; Stays At Home (William, son), age 18; Talks With Bear (Oliver, son), age 14; Bugler (Max, son) age 12;
Little Scout (Pollock, son) age 9; Running Horse Hugh Standing Soldier (grandson), age 8; Black Crow's daughter (granddaughter, name and age not recalled).

Later on, he withdrew his grandchildren because the system had no intention of stressing basic education that would satisfy the needs expressed by Sinte Gleska. Although this was a major setback for Sinte Gleska, he nevertheless raised one of the first and significant issues of bilingual and bicultural education. It was this concern that set the stage for the founding of Sinte Gleska University more than 100 years later.

On August 5, 1881, while Sinte Gleska was returning home from an important council meeting that had voted to send him to Washington, DC, to represent the Sicangu for an unprecedented third time, Crow Dog shot and killed the Sicangu leader. The motives behind the assassination of Sinte Gleska are complex, controversial, and so sensitive that, for the time being, no complete picture of what occurred can be drawn.

Today, Sinte Gleska lies buried on the crest of the nearest northern hill overlooking the Rosebud Agency, where the hub of activity between the US Government and the Sicangu people are enacted on a
daily basis. Here too stands Sinte Gleska University, which embraces the lofty vision Sinte Gleska had for the people—that is, to take up and master the skills of the white man—hecel oyate kin nipi kte (so that the people may live).

Victor Douvill, Professor and Scholar
Sinte Gleska University Lakota Studies Department
1997
PREPARED STATEMENT OF LIONEL BORDEAUX

Sinte Gleska University is honored to present this written testimony today before the Senate Indian Affairs Committee concerning S. 1345, the Equity in Educational Land Grant Status Act of 1993. This legislation has been long in the making, and will write volumes in the pages of history of the Sicangu Lakota Nation of the Rosebud.

Our history, rich in culture and spirituality, has been marked by events less than memorable by western standards. However, these events have strengthened us as a people and created in us a desire to reclaim our heritage and land. Perhaps the most memorable event by Lakota standards was the massacre at Wounded Knee, where over 300 men, women and children lost their lives in one of the last armed conflicts between the United States and tribal nations.

During that same year, 1890, this body was considering legislation to improve the opportunities of Blacks and rural Americans through the establishment of land grant institutions to address needs seemingly unique to them as a people. Our needs were addressed by establishing the Rosebud Reservation void of economical and educational opportunity. The next 80 years would not see much improvement until the advent of Sinte Gleska college in 1971. Survival is our goal; education is our strategy.
While this Committee is fully aware of these events and their consequences, we are reminded of them daily in our struggle for equality and opportunity. We are also mindful of the lives that were given for our survival that we may comprehend the significance and connection to the land that we have been stewards of for hundreds of years.

Today, we are at another stage of development as a people and as Sinte Gleska University. Again, this Committee is aware of our mission and has been a primary provider of support for tribally-controlled higher education, and we are thankful.

In the short history of Sinte Gleska University, we have witnessed a renewal of cultural ownership and traditional religion, a determination by the people we serve to improve the quality of life for all tribal members, and a deep conviction to be faithful to the land from which we came.

It is our responsibility then, as Sinte Gleska University, to continue to provide educational opportunities that bring economic development and growth to our tribe, to develop policy that protects our land and preserves our cultural integrity, and to provide outlets for our people to accomplish these objectives.

The Rosebud Reservation is home to over 17,000 members of the Rosebud Sioux Tribe. The Reservation covers over 5,000 square miles,
approximately 1 million acres. There are 63 Native American land operators with the major agricultural enterprise being livestock ranching. The majority of acreage on the Rosebud is rangeland with a small portion being a modest timber reserve.

Currently, the Rosebud Sioux Tribe owns and maintains the Rosebud Sioux Tribal Ranch. The Tribal Ranch is primarily responsible for maintaining cattle and horses owned by the tribe, as well as provide employment opportunities for tribal members. In addition, the ranch serves as a source of assistance for tribal elders and families in need of wood and other resources during the winter months.

Noting that South Dakota ranks among the top ten states nationally in the production of corn, wheat, soybeans, honey, cattle, sheep and hogs, and relies more heavily on these than any other state, the potential for further development on the Rosebud is great. Our ability, however, to provide the necessary education to assist in this development is severely limited by our current financial resources.

Those resources have allowed Sinte Gleska University to develop course work that will begin this Spring toward an associate of applied science degree in agricultural business. In our research and development of this vital program we have begun a strategic effort to address the shortage of economic opportunity through agriculture related fields
and a positive approach toward self-sustainable homelands. But more must be done.

S. 1345 will provide the resources necessary for public education about agricultural development. It is not easy to get into the agricultural business, and it is even more difficult to stay in the business. As a land grant institution, Sinte Gleska University can develop agricultural programs that assist current operators and improve opportunity for new, young operators. Such programs would include ranch management, livestock production programs, range management, shelter belt and horticulture programs and pesticide applicator training.

This legislation will also strengthen our work concerning environmental issues. Sinte Gleska University has been an active participant in the national dialog concerning the environment and will continue to develop educational strategies to manage soil and water resources and protect them from erosion, contamination and other effects. Resources available through S. 1345 will provide us with the capacity to begin research on a competitive level to ensure environmental protection and that standards of production remain high.

Further, we envision the utilization of current resources, such as the tribal ranch, as a research facility for beef production, animal sciences and husbandry, and processing. In the past research has been
limited to the availability of funds and other resources within the Bureau of Indian Affairs which are few and far between and seldom provide viable solutions or responses to critical needs of survival and strength for tribal people.

Two specific areas that Sinte Gleska University has identified as research and economic development initiatives are the development of a pilot agricultural horticultural project and the further development of the Tribe's buffalo project.

Although much of the land on the Rosebud is more conducive to livestock development, our ancestors have handed down a spiritual and practical knowledge of indigenous plants. Under the guidance of tribal elders and spiritual leaders, Sinte Gleska University would like to perpetuate this knowledge through a demonstration project that can be replicated on individual Indian land, and provide a source of revenue for the tribe and tribal members.

Similarly, the buffalo was the primary animal the Lakota depended on for survival, and the source of spiritual and symbolic strength. Our life, during the time of the needless slaughter of buffalo for their hides and tongue, also began to diminish. Yet our reliance on and reverence for this noble animal of the plains remained alive. We are certain that its return can signal a return to traditional values and
economic growth for the Rosebud Sioux Tribe.

S. 1345 also opens the doors to a greater source of information sharing and technological advancement in cooperation with existing land grant institutions. As an example, Sinte Gleska University has begun an exchange effort with our Arts and Sciences Department and the English Department at South Dakota State University. Faculty exchanges and dialog have already occurred to expand the opportunity for faculty and curriculum development. Likewise we have begun to open dialog with the Administration of SDSU, the state's land grant institution, to broaden that communication and sharing of ideas, technology and culture.

The efforts of the American Indian Higher Education Consortium and its members to bring telecommunications and long distance learning to our people, and ours to the rest of the state and nation, can only be enhanced by passage of S. 1345. The work of institutions like SDSU in the areas of health education, home economics and research can greatly sharpen our response in addressing these areas on the reservation.

Our response to how S. 1345, the Equity in Educational Land Grant Status Act of 1993, can assist Sinte Gleska University in fulfilling its mission of self-determination, individual development and tribal
autonomy can fill volumes. Know that your consideration of this impor-
tant development for tribal colleges throughout the nation means the
development of opportunity and life for the thousands of tribal members
we serve.