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PERSISTENCE OF AMERICAN INDIAN STUDENTS AT A
COMPREHENSIVE STATE UNIVERSITY

The University of Oklahoma

PH.D.

1981

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THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

PERSISTENCE OF AMERICAN INDIAN STUDENTS
AT A COMPREHENSIVE STATE
UNIVERSITY

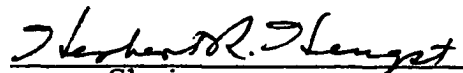
A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

By
OMERO SUAREZ
Norman, Oklahoma


1981

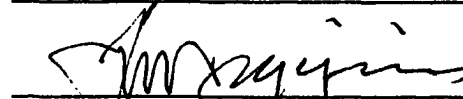
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AT A COMPREHENSIVE STATE
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DISSERTATION COMMITTEE

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A STUDY OF PERSISTENCE OF AMERICAN INDIAN STUDENTS
AT A MAJOR STATE UNIVERSITY

CHAPTER I

INTRODUCTION

American Indians present a compelling challenge to Institutions of Higher Education. "A major difficulty with Native American students in higher education has been their lack of ability to stay in school and complete their college programs,"¹ assert Patton and Edington. In the same trend, Coombs states that "the educational progress which Indian people are making is, perhaps least satisfying with respect to college enrollment and college graduation."² The suggestion is that few American Indian students are enrolling in college and universities, and of the few American Indian

¹Walter Patton and Everett D. Edington, "Factors Related to the Persistence of Indian Students at College Level," Journal of American Indian Education (May 1973): 19.

²Madison Coombs, "The Indian Student Is Not Low Man on The Totem Pole," Journal of American Indian Education (May 1970): 6.

students that do enroll, many fail to persist and therefore, fail to receive a degree.

In searching for a rationale for this phenomenon, authorities proffer various explanations. Svensson sees the American Indian educational dilemma as a costly struggle to survive. "Too many of our people have been dislocated, caught somewhere in a cultural limbo between the Indian and white worlds. From the beginning, the educational system has been one of the major battlegrounds in the confrontation between the two worlds, and it bears a heavy responsibility for the fate of generations of human victims - dropouts and semieducated young people systematically taught to disparage their own birthright and their identity."¹ The suggestion here is that cultural conflict is a contributing factor in the educational dilemma of the American Indian people and that the present educational system is responsible for the maintenance or loss of culture and heritage by Indian students. Svensson summarizes the position by stating that "because of the power they hold over the future, the educational process controls the destiny of nations."² In a similar mode, the Government accounting office states in a Review of the Bureau of Indian Affairs that, Indian students are thrust into a campus setting and

¹Frances E. Svensson, "What About the First American," Today's Education - NEA Journal (January 1973): 39.

²Ibid.

often experience culture shock in adjusting to college life. Counselors and Bureau of Indian Affairs officials said that these students have great difficulty in making the transition from a largely noncompetitive rural environment to an intensely competitive urban campus setting. Several Indian students commented that reservation Indians have a lot of trouble adjusting to large cities. Others said their value systems are very different from white, middle-class Americans in that they are taught to cooperate and not compete.¹

The available research (Coombs, Chadwick) would suggest that American Indian representation on college and university campuses is limited in numbers. Of those students who go to colleges or universities, the research literature would suggest that cultural conflict appears to play a significant role in the persistence of these students in college.

STATEMENT OF THE PROBLEM

The problem with which this study deals is the persistence and non-persistence by American Indian students at a major university. More specifically, it involves an examination of the factors related to persistence and non-persistence of such students. The problem will

¹U.S. Department of the Treasury, Government Accounting Office, The Bureau of Indian Affairs Should Do More to Help Educate Indian Students, 1-39 November 1977, p. 12.

be examined or treated through consideration of the following question: In what ways do American Indian students at the University of Oklahoma who are successful in completing coursework differ from those who are less successful (and eventually dropout)?

The sub-questions that proceed from the general question are as follows:

What is the nature and extent of the diversity of measured scholastic aptitude of persisting and non-persisting American Indian students?

What is the nature and extent of the diversity of previous high school grade point average of persisting and non-persisting American Indian students?

Is there a significant difference among persisting and non-persisting American Indian students with respect to family incomes?

Is there a significant difference among persisting and non-persisting American Indian students with respect to parental educational attainment?

Is there a significant difference among persisting and non-persisting American Indian students with regard to their personal devotion to their respective Indian culture?

Is there a significant difference among persisting and non-persisting American Indian students with regard to attitudes toward integration into the University environment?

RATIONALE FOR THE STUDY

A governmental General Accounting Office report states that "while some Indian students are performing satisfactorily and will eventually earn their degrees the

available evidence suggests that many are performing well below their non-Indian peers and will never earn their college degrees."¹ The report proposed in 1975 by the General Accounting Office, "estimates that 54% of the American Indian freshmen did not return to the school where they first enrolled. On the average, Indian freshmen began college with an American College Testing Program (ACT) composite score of 13, completed 7 credit hours per semester, and earned less than a "C" grade for the school year."² The Bureau of Indian Affairs estimates that 10% of American Indian freshmen eventually graduate, while according to the Department of Health Education and Welfare an estimated 54% of all entering freshmen eventually graduate.³ The data for high school Indian students suggests the same pattern. Coleman reported in 1966 that the dropout rate for Indian students who start high school was about 50% as compared to 26% for non-Indian students.⁴ Historically, American Indians have apparently been served minimally by public education. Coombs reported in 1970 that "there is no question but that Indian Americans

¹U.S., Department of the Treasury, Government Accounting Office, The Bureau of Indian Affairs Should Do More to Help Educate Indian Students, 1-39 November 1977, p. 10.

²Ibid., p. 5.

³Ibid., p. 10.

⁴James S. Coleman, et al., Equality of Educational Opportunities Also, Supplement (Washington, D.C.: U.S. Department of Health, Education and Welfare, 1966), p. 470.

are among the most disadvantaged of all American citizens and that their children suffer from a most grievous educational disadvantage."¹ There is little current evidence to suggest that a different situation exists today.

The research available would suggest that the lack of persistence by American Indians in education permeates all educational levels from the elementary grades to the secondary levels and into higher education. "The educational issue for Indians is not good . . . a fairly substantial number of them (approximately ten percent) are not even being enrolled in school, and nearly 50% drop out before completing high school. The level of achievement of those who do remain in school is several grades behind that of their white classmates despite the fact that over three-fourths of the Indian students have been retained in one or more grades . . . the overall picture of Indian education is a grim one."²

The evidence indicates that the number of American Indians who graduate from high school is considerably lower than the initial number who started at the elementary level.

¹Madison Coombs, The Indian Child Goes to School, A Study of Interracial Difference (Washington, D.C.: U.S. Department of the Interior, Bureau of Indian Affairs, 1958), p.

²Howard M. Bahr, Bruce A. Chadwick, and Robert C. Day, eds., Native Americans Today: Sociological Perspectives (New York: Harper and Row, 1972), p. 28.

Once Indian students graduate from high school "fewer than 18% of students in federally run Native American schools go on to college."¹

Weinberg writes that, "in 1970 California higher education institutions enrolled 5,362 Indian undergraduate students-- one fifth of the national total. The dropout rates were known to be high, but few precise statistics were available."² He further states that "Indian students were strangers on college campus . . . at Black Hills State College in South Dakota, to which Indian students came from seven nearby reservations, the dropout rate was said to be 80% in 1964."³ Ross studied the Yakima Indian Nation. "The study concludes that a number of specific factors of culture do exist for Yakima students in higher education; that there is an attrition rate of about 85% for these students; and the two measures of immersion in Yakima culture (quantum of Indian blood and attendance at an all-Indian high school) correlated with higher attrition rates."⁴

¹Ann H. Beuf, Red Children in White America (Philadelphia: University of Pennsylvania Press, 1977), p. 28.

²Meyer Weinberg, A Chance to Learn: A History of Race and Education in the United States (London: Cambridge University Press, 1977), p. 339.

³Ibid., p. 339.

⁴Kathleen Ann Ross, "Cultural Factors in the Success and Failure of American Indian Students in Higher Education: A Case Study for the Yakima Indian Nation." (Ph.D. dissertation, Claremont Graduate School, 1979), p. vi.

The available research indicates that few American Indian students have the opportunity to attend some form of higher education, and the few who do avail themselves of this opportunity have a difficult time succeeding.

"Indian education has failed to prepare Indian students to participate in white society."¹

American Indians understand the importance of education, but seemingly are unable to significantly alter the failure syndrome of American Indian education. Beuf asserts that, "higher education is an important pathway to upward mobility, and the lack of it confines these children to the same occupational options which were available to their parents, maintaining the status quo for another generation."²

The State of Oklahoma had the largest American Indian population in the nation, 96,803 in 1970. This figure constitutes approximately 3.9 percent of the total population for the State.³ Oklahoma has not historically had active participation of American Indians in its system of higher education. Weinberg notes that an official federal study in 1970 determined that there were 3,679 American Indians

¹Howard M. Bahr, Bruce A. Chadwick, and Robert C. Day, eds., Native Americans Today: Sociological Perspectives (New York: Harper and Row, 1972), p. 135.

²Ann H. Beuf, Red Children in White America (Philadelphia: University of Pennsylvania Press, 1977), p. 32.

³U.S., Department of Commerce, Bureau of the Census, General Population Characteristics (Report PC (1)-B1:1970), p. 12.

engaged in full-time undergraduate, graduate, and professional study in Oklahoma.¹

It is suggested by Weinberg that historically Indian students attended the highest quality public institutions in the State in accordance with some parity measure. For example, he reports that "in 1970 nearly one-fifth of all Indian college students in Arizona attended the University of Arizona. In Washington nearly one-sixth attended the University of Washington. In Oklahoma, however, fewer than one-twentieth attended the University of Oklahoma."² Limited research has been conducted at the University of Oklahoma (Carney) relative to persistence and non-persistence of American Indians.

SIGNIFICANCE OF THIS STUDY

The purpose of this study is to seek out the nature and extent of the diversity of the characteristics of persisting and non-persisting American Indian students at the University of Oklahoma campus in Norman. Specifically, the study attempts to discern what diversity of measured scholastic aptitude exists on the Norman campus for a period of

¹Meyer Weinberg, A Change to Learn: A History of Race and Education in the United States (London: Cambridge University Press, 1977), p. 338.

²Ibid., p. 338.

four years 1975-1977 within a cohort of American Indian students. Also, the study will attempt to assess what diversity exists in non-academic factors of persisting and non-persisting students. The study will describe within certain limitations why selected American Indians fail to complete their college programs at the University of Oklahoma.

SUMMARY

The available research would suggest that American Indian representation on college and university campuses is marginal. Of those students who go to college or universities, the research literature indicates that few persist and eventually earn a degree. Cultural conflict appears to play a significant role in the persistence of students in college.

The problem that this study will address is: In what ways do American Indian students at the University of Oklahoma who are successful in completing coursework differ from those who are less successful (and eventually drop out)?

CHAPTER II

REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

Introduction

The purpose of this chapter is to provide the theoretical foundation and related literature of this study. While this study seeks to identify those characteristics of students which succeed as compared to those who do not succeed, this information is of little value if not related to a theoretical foundation.

Conceptual Framework

The theoretical framework for this study is based on the interactionist conception of human development. J. McVicker Hunt states that the notion of interactionism appears to have had its origins in the work of the Danish geneticist, W. Johanssen, who along with G. Mendel, is considered a pioneer of scientific genetics.¹ The concept of

¹J. McVicker Hunt, The Challenge of Incompetence and Poverty (Urbana: University of Illinois, 1969), p. 51.

interactionism suggests that "the observable, measurable characteristics of organisms," which Johannsen called phenotypes, have come to be seen as products of the interaction between the hereditary constitution, which Johannsen termed the genotype, and the circumstances encountered in the development.¹ In further defining this concept, Hunt states that "by the genotype, Johannsen meant any constellation of genes that an organism receives from its progenitors. By the phenotype, he meant any characteristics of an organism or plant that can be observed and measured at any point in its development. Johannsen also pointed out that the genotype can only be inferred from its effects on observable phenotypes." The phenotype is a product of the genotype's interaction with circumstances encountered.²

An aspect of interactionism that is of key importance to the present study is identified by Hunt: "This concept of interactionism, deriving originally from Johannsen's work, has the important implication that children of different genotypes may need different kinds of circumstances to enable them to achieve their potential of competence."³ This concept provides the framework for the notion that

¹Ibid., p. 148.

²Ibid., p. 56.

³Ibid., p. 193.

American Indian students, though coming from a culture distinct from that of the majority culture may be provided circumstances that would enable them to achieve their "potential of competence".

Furthermore, Gordon and Wilkerson substantiate this, "the interactionist or reflectional position holds that all organized patterned behaviors are reflections of the interaction between living things and their environment. . . . Encounters with the environment are seen as the crucial determinants and holders of the patterned behavior of the individual."¹ Implicit to the interactionist position is the assumption that change is possible.

"It not only follows that educational intervention functions as more than a catalyst for the stimulation and release of latent potentials, but as a modifying behavior force as well. An interactionist position with respect to the organization of behavior leads one to view the developmental process as malleable, to regard intelligence as non-static and variable, to see motives and attitudes as determined and modifiable by experience, and to recognize all achievement as the product of the individual's characteristics in continuous and dynamic interaction with those elements of the environment which are effective at a given time."²

With respect to this theory, American Indian students will be viewed as individual who establish a relationship with

¹Edmund W. Gordon and Doxey A. Wilkerson Compensatory Education for the Disadvantaged (New York: College Entrance Examination Board, 1966), p. 26.

²Ibid., p. 26.

a new institution, the University of Oklahoma, through the matriculation process. The Persistence Model found on page 29 will be the focus of this study which will provide insight into whether students are allowed to develop their potential as measured by number of hours completed at the University of Oklahoma. Underpinning this study, by virtue of the use of the Persistence Model, is the notion that the University provides the circumstances with which the students interact.

The concept of student attrition, a principal interest of this study, "is a phenomenon which highlights a fundamental premise of symbolic interaction theory--the interaction of the student within an individual-group-setting relationship as the framework for personal structuring of verbal and non-verbal behavioral outcomes. Therefore, intensive investigation of the problem of student attrition is one of the great contemporary issues of public higher education . . ." ¹

The issue of student attrition appears to affect all groups of students including socioeconomic subcultures in this country. Alfred states that colleges are concerned about ". . . the salvage, redirection, and retention of students from diverse ability, achievement, and socioeconomic

¹Richard L. Alfred, 1971-1972 Student Attrition: Antecedent and Consequent Factors (Kansas City: Metropolitan Junior College):1.

subcultures of American society."¹ This study of student persistence, its causes and ramifications, is extremely important and cannot be conducted in isolation, but must be related to the entire educational structure.

In their study of the disadvantaged students in higher education, H. Astin, et al., recommended that "the student must not be molded to a middle class pattern but rather offered the opportunity to realize his potential with the framework of his own culture."²

This study seeks to identify reasons why some American Indian students persisted and why some did not persist. This information is of little value if received in a vacuum. It is, therefore, necessary to look at the population in respect to the relevant activities and the environment in which they occur as proposed in the persistence model.

Related Literature

How does the college environment or climate of an organization affect human behavior? According to Alexander Astin, in his study of the college environment, he states that the college environment can be defined as the

¹Ibid., p. 1.

²Helen S. Astin, et al., Higher Education and the Disadvantaged Student (Washington, D.C.: Human Service Press, 1972), pp. 22, 23.

characteristics of the college that constitute a potential stimulus for the student, i.e., that is capable of changing the student's sensory input.¹

Forehand and Gilmer identify two kinds of influence that an environment has on an individual.²

"Direct influence is being exerted when a particular organizational property influences the behavior of all or almost all members of an organization. Interactive influence exists when an organizational condition has a certain effect upon the behavior of some independent identifiable persons, but a different, or no effect, on the other participants. As interactive influence is exerted by the organization, the individual's reaction and response is further affected by the personalistic qualities of the participant. There is evidence that a person's perceptions affect behavior. perceptions are influenced by abilities, values, and personality traits of the perceiver and by the organizational role assumed."³

The college environment and how it affects students is an integral part of the Persistence Model. This study will address the notion that integration into the University community has an affect on persistence.

The act of dropping out of college appears to be a process students become involved in over a period of time.

¹Alexander W. Astin, The College Environment (Washington, D.C.: The American Council on Education, 1968), p. 8.

²Garlie A. Forehand and V. von Haller Gilmer, "Environmental Variation in Studies of Organization Behavior." Psychological Bulletin, 62 (December, 1964):369.

³Ibid., p. 370.

Vincent Tinto argues that dropping out of college can be viewed as a longitudinal process of interaction between the individual and the academic and social systems of the college during which a person's experiences in those systems (as measured by his normative and structural integration) continually modify his goals and institutional commitment in ways which lead to persistence and/or to varying forms of dropout.¹ This study will address the process of interaction between the student and his academic and social environment.

Tinto further suggests that individuals enter institutions of higher education with a variety of attributes (e.g., sex, race, ability), precollege experiences (e.g., gradepoint averages, academic and social attainments), and family backgrounds (e.g., social status attributes, value climates, expectational climates) each of which has direct and indirect impacts upon performance in college. More importantly, these background characteristics and individual attributes also influence the development of the educational expectations and commitments the individual brings into the

¹Vincent Tinto, "Dropout From Higher Education: A Theoretical Synthesis of Recent Research," Review of Educational Research 45 (Winter, 1975): 94.

college environment.¹ This study will be concerned with a variety of similar attributes in order to identify those variables that contribute to persistence and non-persistence.

Wanous suggests that students' organizational entry into a university environment could have a profound effect on the cognitive maps of individuals. Perceptions formed by persons outside the organization seemed to be both biased and deficient when compared to those of experienced participants.² The population of this study will be 101 American Indian students (this cohort will be described in detail in Chapter Three) so, therefore, the perception of these students will be important relative to the study.

The results of the study by Wanous indicated a decline in expectations occurring between the newcomer and inside stages. Newcomer expectations were not significantly lower than those of outsiders. The data indicated that several months of organization experience was necessary for expectations to be lowered.³

Tinto summarizes his model by stating that, "given individual characteristics, prior experiences, and

¹John P. Wanous, "Organizational Entry: From Naive Expectations to Realistic Beliefs," Journal of Applied Psychology 61 (February, 1976): 23.

²Ibid., p. 26.

³Ibid., p. 27.

commitments, it is the individual's integration into the academic and social systems of the college that most directly relates to continuance in that college."¹ An American Indian student enters the first year of college with expectations that may or may not be valid. During the course of the first year of study, individual perceptions of the institution may be altered to fit what has been experienced. On the other hand, the students may refuse to change previous perceptions.

The synthesis of the research literature on dropouts from college examines a variety of characteristics that appear to be related to persistence in college. According to Tinto, ". . . of all the characteristics most related to dropout, the most important pertain to the characteristics of his family, the characteristics of the individual himself, his educational experience prior to college entry, and his expectations concerning future educational attainments."²

In reference to family background Tinto states that the likelihood of an individual dropping out from college has been shown to be related to the characteristics of the family.³ "Children from lower status families exhibit

¹Vincent Tinto, "Dropout From Higher Education: A Theoretical Synthesis of Recent Research," Review of Educational Research 45 (Winter, 1975): 96.

²Ibid., p. 99.

³Ibid., p. 99.

higher rates of dropout than do children of higher status families even when intelligence has been taken into account," according to Sewell in his study of 9,000 randomly selected high school students in Wisconsin.¹ The study used such measures of socioeconomic status as parental income, father's and mother's educational attainment, and father's occupation--either singly or in combination. The study found enormous differences in educational opportunity among the various socioeconomic groups. The differences are great regardless of what socioeconomic indices are used and regardless of how restrictively or broadly opportunity for higher education is defined, whether it is taken to mean college entry, college graduation, professional or graduate study, or simply continuation in any kind of formal education beyond high school.²

In another study Sewell, Haller, and Ohlendorf replicated and revised a model that proposes that predetermined social structural and psychological factors defined as socioeconomic status and mental ability, affect the youth's academic performance and the influence significant others have on him; that the influence others and possibly his own ability affect his levels of educational and occupational aspirations; and the levels of aspiration affect educational

¹ William H. Sewell, "Inequality of Opportunity for Higher Education," American Sociological Review 36 (October, 1971): 794.

² Ibid., p. 794.

and occupational aspirations; and the levels of aspiration affect educational and occupational status attainment. Thus, the model provides a causal argument linking social origins and ability with educational and early occupational status attainment by means of intervening behavioral mechanisms.¹ In terms of this study, the persistence model also provides a causal argument linking social origins, ability, parental educational attainment with persistence or non-persistence.

Hackman and Dysinger examine the possibility that the commitment of a student and his parents to obtaining a college education may be an important factor in determining whether or not the student withdraws from college during his freshman year.² Data were collected from 1,407 students in three colleges and from parents of 1,331 of these students.³ The results suggest that a student's home and family may be highly important in determining his reaction to the college experience. Students with better-educated parents were found to be more committed to college, as were students who viewed their relationship with their parents as good.⁴

¹William H. Sewell, Archibald O. Haller, and George W. Ohlendorf, "The Educational and Early Occupational Status Attainment Process: Replication and Revision." American Sociological Review 35 (December, 1970): 1015.

²J. Richard Hackman and Wendell S. Dysinger, "Research Notes: Commitment to College as a Factor in Student Attrition," Sociology of Education 43 (Summer, 1970): 311.

³Ibid., p. 311.

⁴Ibid., 320.

In another study, A. Astin looked at the tendency to drop out of college before completing the baccalaureate degree.¹ He conducted a four-year longitudinal study of 6,660 high aptitude students. It was found that students who drop out of college come from lower socioeconomic backgrounds, have lower ranks in high school, plan initially to get low college degrees, and apply for relatively fewer scholarships than do students who do not drop out. Personality measures suggested that dropouts tend to be more aloof, self-centered, and assertive than non-dropouts.²

Personality and ability were the focus of a study conducted by Hanson and Taylor. They examined the interaction of ability and personality in discriminating between four groups of engineering students differing in academic success and persistence.³ They reported that a student's personality and ability are represented by separate dimensions and influence his educational direction differently. A student's ability will influence whether he succeeds

¹Alexander W. Astin, The College Environment (Washington, D. C.: The American Council on Education, 1968), p. 219.

²Ibid., p. 219.

³Gary R. Hanson and Ronald G. Taylor, "Interaction of Ability and Personality: Another Look at the Dropout Problem in an Institute of Technology," Journal of Counseling Psychology 17 (November, 1970): 540.

academically in an Institute of Technology, while personality characteristics will influence whether or not he withdraws or remains.¹

A non-persisting group was compared to a persisting group of students after three terms of work by Marks.² The dropout group demonstrated both lower ability and poorer high school performance. In addition, the dropout group had a lower mean first term G.P.A., this value being below the minimum required for graduation from the University.³ Marks asserts that the only reliable conclusion emerging from non-persistence research activity is that students with poor high school preparation or low scholastic aptitude have a higher incidence of college withdrawal.⁴

A fact consistently found throughout the literature of college persistence and non-persistence is reinforced by Trent and Ruyle's study.⁵ Their study of college attendance concludes that ability is clearly related to college attendance and also that there is a wide diversity of ability among students attending college.⁶

¹Ibid., p. 545.

²Edmond Marks, "Student Perceptions of College Persistence, and their Intellectual, Personality and Performance Correlates," Journal of Educational Psychology 58 (1967):220.

³Ibid., p. 220.

⁴Ibid., p. 211.

⁵James W. Trent and Janet H. Ruyle, "Variations, Flow, and Patterns of College Attendance." College and University 41 (Fall, 1973):68.

⁶Ibid., p. 68.

Coker conducted a study to discern what diversity of intellectual and non-intellectual factors existed among 7,010 persisting and non-persisting freshmen students on five campuses.¹ The results of this study suggest that on the basis of scholastic aptitude, persisting students tended to achieve significantly higher mean scores on all the subscales of the ACT (American College Testing Program) than either of the two non-persisting sub-groups (academic non-persistence and non-academic non-persistence groups).²

On the basis of high school achievement, persisting students tended to achieve a significantly higher grade average in high school than the non-persisting students.³ These results further suggest that the size of the high school class from which the student graduated may be a factor in terms of persistence within the five universities investigated.⁴

SUMMARY

The theoretical framework is based on the interactionist conception of human development. This concept has

¹David L. Coker, Diversity of Intellectual and Non-Intellectual Characteristics Between Persisting and Non-Persisting Students Among Campuses (Washington, D.C.: HEW, 1968), p. 100.

²Ibid., p. 100.

³Ibid., p. 103.

⁴Ibid., p. 111.

the important implication that children of different backgrounds may need different kinds of circumstances to enable them to achieve their potential of competence.

The review of studies suggests that persistence and/or non-persistence are due to a great number of inter-related factors such as student characteristics, conflicts between the student and the institution, and family matters. Specifically, it has been demonstrated in the literature that the characteristics of an institution influence individuals. "It places limits upon the development and integration of individuals within the institution and that leads to the development of academic and social climates, or presses, with which the individual must come to grips."¹

Individual characteristics appear to constantly rise to the surface as important factors for non-persistence or persistence. Past educational experiences, results of standardized examinations and college academic progress influence the outcome of a student's educational experience. The family also contributes a great deal of influence according to the studies cited. Educational attainment and socio-economic status of parents play a rather decided role in whether an individual succeeds in college. "Thus, one can argue that families pass on the 'advantages' of their social

¹Vincent Tinto, "Drop From Higher Education: A Theoretical Synthesis of Recent Research," Review of Educational Research 45 (Winter, 1975): 111.

position to their children in large measure through the process of expectational development--a process that leads children of higher status backgrounds to expect more of themselves, other things being equal, than do children from lower status backgrounds."¹

¹Ibid., p. 103.

CHAPTER III

METHODOLOGY

STATEMENT OF THE PROBLEM

The principle research question is: In what ways do American Indian students at the University of Oklahoma who are successful in completing coursework differ from those who are less successful (and eventually drop out)? This chapter reports the methodology used in the study including: (1) Design; (2) Research Hypotheses; (3) Instrumentation; (4) Population; (5) Data Collection; (6) Statistical Treatment; (7) Definition of Terms; (8) Limitations of the Study; and (9) Summary.

RESEARCH DESIGN

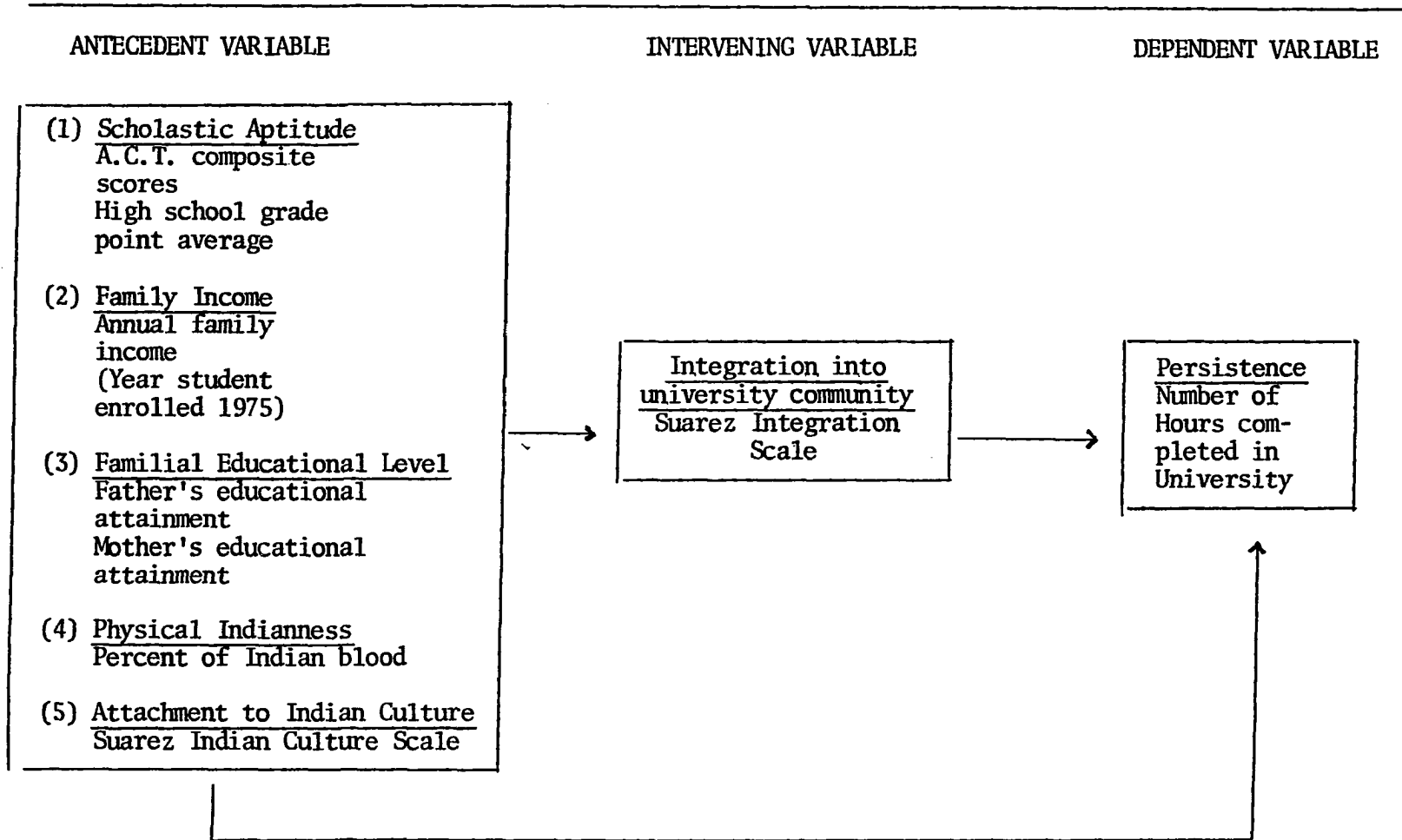
This is an ex-post facto descriptive study which examines the entire cohort of American Indian students enrolled in the University of Oklahoma as freshmen in the Fall of 1975. Data are collected on these students for each semester of their collegiate careers, from matriculation to graduation or termination of the university experience.

The research model for this study focuses on the effects of a group of five antecedent variables on the dependent variable and, additionally, contains provisions for influence by an intervening variable. An explicit representation of the proposed relationships is provided in Figure 1 (page 29).

The model identifies the five antecedent variables: (1) scholastic aptitude; (2) family income; (3) familial education level; (4) physical Indianness; and (5) attachment to Indian culture. Each of these has been identified in the previous literature as having potential influence on persistence. In addition to these five variables, there is an intervening variable, integration into the university community, and the dependent variable, persistence in completing coursework.

According to the research model, the five antecedent variables affect the persistence variable through two pathways. The first pathway is for any one or more of the antecedent variables to affect the dependent variable directly without being mediated by the intervening variable. The second pathway is for any one or more of the antecedent variables to affect the variable persistence through the intervening variable, integration into the university community. In other words, the intervening variable in this case is the mechanism by which the antecedent variables are linked to the dependent variable.

FIGURE 1
THE RESEARCH MODEL



Research Hypotheses

The first set of hypotheses addresses the concept of integration into the university community. This set examines the relationship between the antecedent and intervening variables. It is anticipated that the extent to which a student becomes integrated into the university community is a function of that student's scholastic aptitude, as measured by high school grade point average and A.C.T. composite score, family income, familial educational attainment, physical Indianness, and attachment to Indian culture.

Stated as formal null hypotheses:

- H₀ 1: There is no relationship between A.C.T. composite score and the score on the integration scale.
- H₀ 2: There is no relationship between high school grade point average and score on the integration scale.
- H₀ 3: There is no relationship between father's educational attainment and score on the integration scale.
- H₀ 4: There is no relationship between mother's educational attainment and score on the integration scale.
- H₀ 5: There is no relationship between family income and score on the integration scale.
- H₀ 6: There is no relationship between degree of Indian blood a student has and score on the integration scale.
- H₀ 7: There is no relationship between score on the attachment to Indian culture scale and score on the integration scale.

The second set of hypotheses addresses the concept of persistence in the University of Oklahoma. This set examines the relationship between the antecedent and intervening variables on the dependent variable. It is anticipated that the extent to which a student persists at the University of Oklahoma is a function of that student's scholastic aptitude, as measured by high school grade point average and A.C.T. composite score, family income, familial educational attainment, physical Indianness, attachment to Indian culture, and integration into the university community. Stated as formal null hypotheses, this statement generates the following:

- H₀1: There is no relationship between A.C.T. composite scores and persistence as measured by number of credit hours completed at the University of Oklahoma.
- H₀2: There is no relationship between high school grade point average and persistence as measured by number of credit hours completed at the University of Oklahoma.
- H₀3: There is no relationship between father's educational attainment and persistence as measured by number of credit hours completed at the University of Oklahoma.
- H₀4: There is no relationship between mother's educational attainment and persistence as measured by number of credit hours completed at the University of Oklahoma.
- H₀5: There is no relationship between family income and persistence as measured by number of credit hours completed at the University of Oklahoma.
- H₀6: There is no relationship between degree of Indian blood a student has and persistence as measured by number of credit hours completed at the University of Oklahoma.

- H₀ 7: There is no relationship between the score on the attachment to Indian culture scale and persistence as measured by number of credit hours completed at the University of Oklahoma.
- H₀ 8: There is no relationship between the score on the integration scale and persistence, as measured by number of credit hours completed at the University of Oklahoma.

Descriptions of the Instruments

The cultural orientation that a student takes to an institution of higher education appears to affect progress in school. Ross states that "culture conflict emerges again and again from the literature as a crucial factor in the higher education experience of American Indian students."¹

It is recognized that important data (i.e., student attitudes, perceptions of the university and its treatment of them), relative to American Indian students as a unique group are seldom revealed by the group nor perceived by the administration of institutions. Even if perceived by administrators, the literature suggests that historically little action to alleviate the problems has been taken. Those data which may suggest an incongruence in values with the dominant culture may be an important factor in the non-persistence of American Indian students.

¹Kathleen Anne Ross, "Cultural Factors in the Success and Failure of American Indian Students in Higher Education: A Case Study for the Yakima Indian Nation." (Ph.D. dissertation, Claremont Graduate School, 1979), p. 43.

Tinto in his model of dropouts from higher education, states that the "lack of integration into the social system of the college will lead to low commitment to that social system and will increase the probability that individuals will decide to leave college and pursue alternative activities."¹ The suggestion posited by Tinto is that the characteristics an individual takes to college are going to influence the degree of social and academic integration into the college environment. He further states that "Other things being equal the higher degree of integration of the individual into college system, the greater will be his commitment to the specific institution and to the goal of college completion."²

The Attachment to Indian Culture Scale is designed to assess the degree to which each member of the cohort has maintained ties with his/her Indian culture. Items were developed to represent a range of activities descriptive of adherence to native culture. This scale was pretested on a group of 38 American Indian undergraduate students at the University of Oklahoma who were not members of the study group. Factor analysis was used to analyze each item to determine validity. A ten item scale was then derived

¹Vincent Tinto, "Dropout From Higher Education: A theoretical Synthesis of Recent Research," 45 (Winter, 1975): 94.

²Ibid., p. 96.

as a measure of attachment to Indian culture for the purpose of this study. Responses to each item were recorded on a Likert-type response format (i.e., a five point agree-disagree continuum). The actual items, and the factor loadings derived from a factor analysis of their items, are summarized in Table 1, page 35. All factor loadings are high, i.e., greater than .30, suggesting in conjunction with the eigenvalues (summarized in Table 2, page 36) that all items measure the same underlying construct. An inter-item correlation matrix and an alpha reliability coefficient are summarized in Table 3, page 37. The alpha reliability coefficient for these items is .85, indicating a high level of reliability.

In summary, the factor analysis, eigenvalues, correlation matrix and alpha reliability coefficient provide substantial evidence for the reliability and validity of the scale.

Integration Into the University Community Scale

is designed to assess the degree to which each member of the cohort of American Indian students feels integrated into the University of Oklahoma Community. This scale was pre-tested on a group of 32 American Indian undergraduate students at the University of Oklahoma who were not members of the study. Factor analysis again was used to analyze each item to determine validity. A ten-item scale was then derived as a measure of integration into the university community

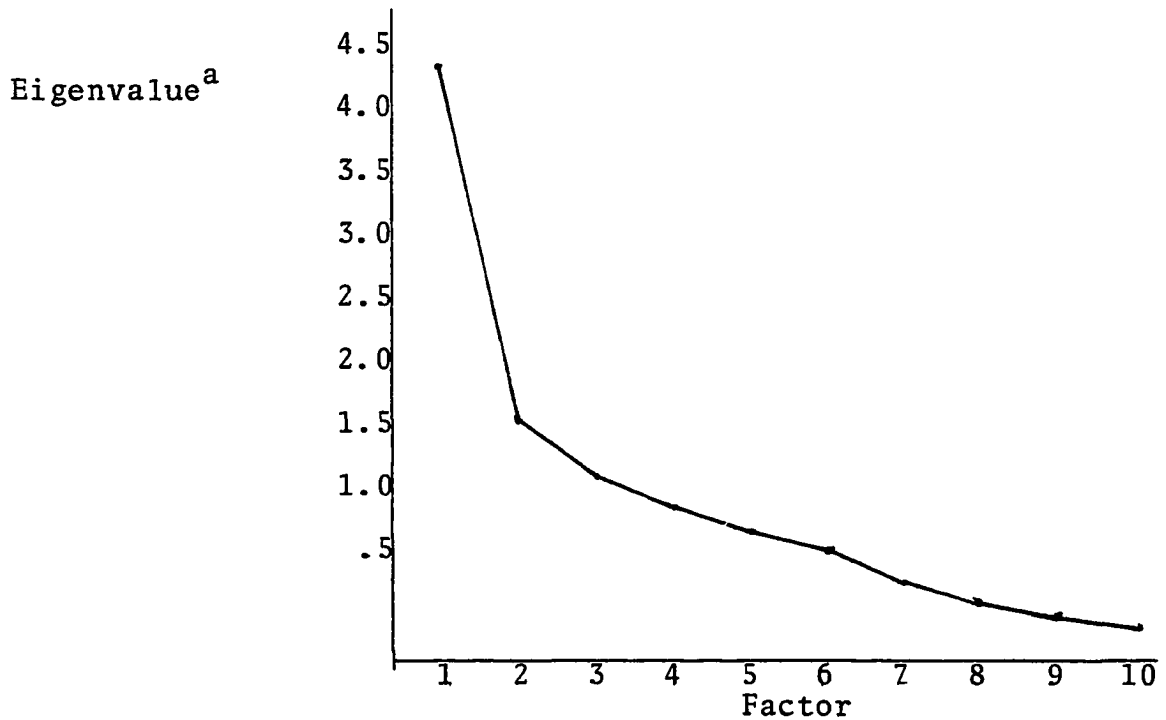
TABLE 1

FACTOR LOADINGS OF ITEMS MEASURING "PARTICIPATION
IN INDIAN CULTURE"

<u>ITEMS MEASURING PARTICIPATION</u> <u>IN INDIAN CULTURE</u>	<u>LOADINGS FOR 1-FACTOR</u> <u>SOLUTION</u>
(1) Attending pow-wows is an important part of American Indian lifestyle.	.71
(2) American Indians should be knowledgeable about their heritage.	.40
(3) American Indians should learn to speak their native tongue.	.58
(4) More Indians should attend Indian pow-wows.	.74
(5) It is important to belong to an Indian organization.	.79
(6) The American Indian medicine man is very important to the American Indian.	.69
(7) American Indian studies are an important part of every Indian student's college program.	.58
(8) American Indians should marry only other American Indians.	.62
(9) It is more beneficial for American Indians to live in an all-Indian neighborhood.	.70
(10) American Indian political groups should help only American Indians.	.59

TABLE 2
EIGENVALUES OF ITEMS MEASURING "PARTICIPATION
IN INDIAN CULTURE"

<u>Factor</u>	<u>Eigenvalue</u>	<u>Percentage of Variance</u>
1	4.27	42.7
2	1.51	15.1
3	1.07	10.7
4	.79	7.9
5	.65	6.5
6	.55	5.5
7	.40	4.0
8	.32	3.2
9	.25	2.5
10	.20	2.0



^aAccording to the "discontinuity" (or "scree") test, the number of underlying factors measured by a set of items equals the number of factors before the major break or bend in the curve (Gorsuch, 1974).

TABLE 3
CORRELATION MATRIX AND ALPHA RELIABILITY OF ITEMS
MEASURING "PARTICIPATION IN INDIAN CULTURE"

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Item 1	---	.13	.35	.78	.42	.46	.29	.34	.39	.33
Item 2		---	.54	.27	.34	.10	.35	.05	.17	.01
Item 3			---	.43	.49	.34	.34	.19	.18	.08
Item 4				---	.47	.45	.31	.27	.41	.30
Item 5					---	.54	.48	.40	.57	.36
Item 6						---	.23	.43	.53	.31
Item 7							---	.42	.24	.29
Item 8								---	.37	.58
Item 9									---	.56
Item 10										---

*p .05 for all correlations larger than .22.

$$= \frac{K\bar{r}_{ij}}{1 + (K-1)\bar{r}_{ij}} = \frac{10 (.353)}{1 + 9 (.353)} = .85$$

Where:

K = number of items

\bar{r}_{ij} = average inter-item correlation

for the purpose of this study. Responses to each item were recorded on a Likert-type response format (i.e., a five point agree-disagree continuum). The actual items, and the factor loadings derived from a factor analysis of these items, are summarized in Table 4, page 39. All factor loadings are high, i.e., greater than .30, suggesting in conjunction with the eigenvalues (summarized in Table 5, page 40) that all ten items measure the same underlying construct. An inter-item correlation matrix and alpha reliability coefficient are summarized in Table 6, page 41. The alpha reliability coefficient for these items is .83, again indicating a high level of reliability.

In summary, the factor analysis, eigenvalues, correlation matrix and alpha reliability coefficient provide substantial evidence for the reliability and validity of the scale.

Population

The population of this study consists of American Indian students who were enrolled in the University of Oklahoma - Norman Campus on a full-time basis (i.e., registered for 12 semester hours or more) and were classified by University standards as freshmen for the 1975-76 academic year. These students were also recipients of Bureau of Indian Affairs Scholarships, an evidence of their "Indian" status. The population of this study consisted of the entire

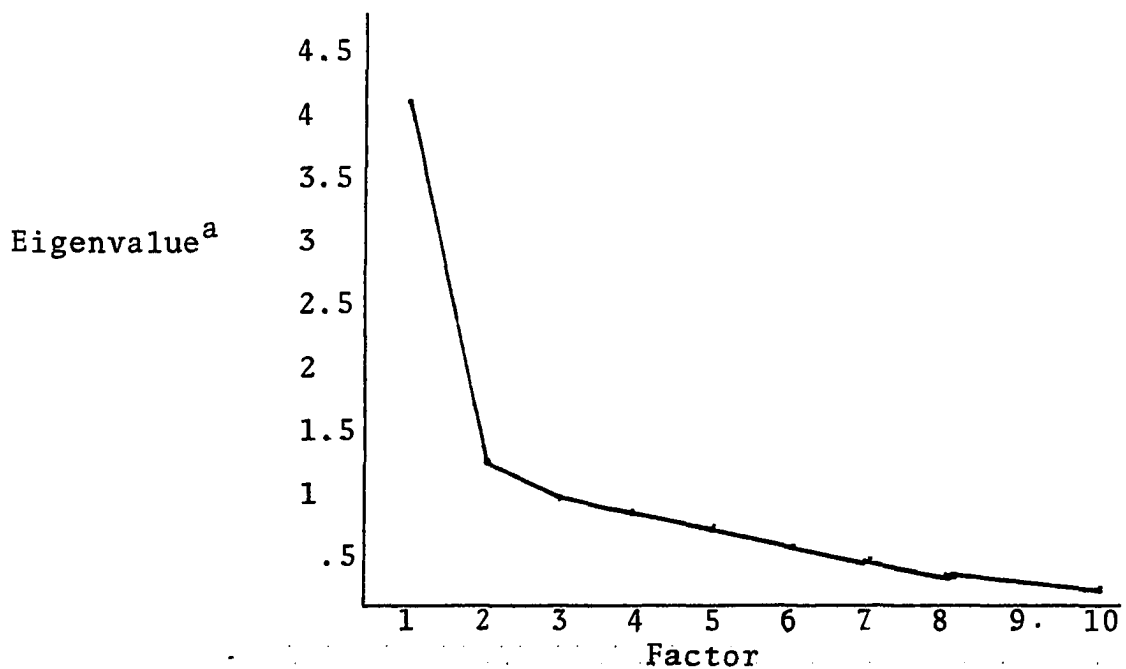
TABLE 4

FACTOR LOADINGS OF ITEMS MEASURING "INTEGRATION
INTO THE UNIVERSITY ENVIRONMENT"

<u>ITEMS MEASURING INTEGRATION INTO THE UNIVERSITY ENVIRONMENT</u>	<u>LOADINGS FOR 1-FACTOR SOLUTION</u>
(1) In my experience most students found it easy to get the help they needed at the University of Oklahoma.	.76
(2) I think that the University of Oklahoma attempted to involve students in University activities.	.74
(3) My parents like to come to the University of Oklahoma for special days like Mom's Day, Dad's Day, and the like.	.55
(4) The University of Oklahoma made special efforts to assist and help students of different races.	.75
(5) I felt free to join a fraternity or sorority at the University of Oklahoma.	.44
(6) The dormitories at the University of Oklahoma were a good place to live.	.56
(7) The cafeterias at the University of Oklahoma served well-balanced meals.	.53
(8) I enjoyed intramural sports at the University of Oklahoma.	.64
(9) The University of Oklahoma had excellent theater plays and shows for students like me to attend.	.68
(10) School spirit was very evident at student activities at the University of Oklahoma.	.54

TABLE 5
 EIGENVALUES OF ITEMS MEASURING "INTEGRATION
 INTO THE UNIVERSITY COMMUNITY"

<u>Factor</u>	<u>Eigenvalue</u>	<u>Percentage of Variance</u>
1	4.01	40.1
2	1.23	12.3
3	1.09	10.9
4	.84	8.4
5	.73	7.3
6	.60	6.0
7	.51	5.1
8	.38	3.8
9	.33	3.3
10	.28	2.8



^aAccording to the "discontinuity", (or "scree") test, the number of underlying factors measured by a set of items equals the number of factors before the curve or bend (Gorsuch, 1974).

TABLE 6
CORRELATION MATRIX AND ALPHA RELIABILITY OF ITEMS MEASURING
"INTEGRATION INTO UNIVERSITY COMMUNITY"

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Item 1	---	.64*	.44	.52	.09	.28	.30	.52	.36	.42
Item 2		---	.35	.58	.16	.36	.30	.40	.39	.31
Item 3			---	.46	.33	.05	.10	.31	.30	.16
Item 4				---	.39	.34	.22	.29	.52	.29
Item 5					---	.26	.23	.20	.27	.18
Item 6						---	.50	.33	.37	.17
Item 7							---	.27	.39	.21
Item 8								---	.29	.40
Item 9									---	.35
Item 10										---

*p .05 for all correlations larger than .22.

$$= \frac{K\bar{r}_{ij}}{1 + (K - 1)\bar{r}_{ij}} = \frac{10 (.353)}{1 + 9 (.353)} = .83$$

Where:

. K = number of items

\bar{r}_{ij} = average inter-item correlation

cohort of American Indian freshmen students beginning in 1975. The total number of American Indians who enrolled as first-time freshmen in the Fall of 1975 was 101. Within this cohort there were 53 males and 48 females.

In a four-year comparison study of new students, started in 1975, at the University of Oklahoma, Carney found that a higher percentage of American Indian freshmen waited one or more years after high school graduation before entering college.¹ The results indicated that in regard to size of hometown, American Indian students tended to come from smaller towns than other new students.² In the category of parental educational background, parents of American Indian freshmen had less formal education and proportionately fewer college degrees than the parents of non-Indian freshmen. The study suggests that American Indian students at the University of Oklahoma came from families with less income than their non-Indian counterparts.³ This research would indicate that the cohort of American Indian students used in the present study are slightly older than their non-Indian counterparts, generally come from small communities and have parents who completed less formal education and earned less income than the parents of the non-Indian freshmen.

¹"A Four Year Comparison of New Student Socioeconomic Backgrounds, Attitudes and Abilities," (Report 22, University of Oklahoma, 1978), p. 5.

²Ibid., p. 5.

³Ibid., p. 6.

One important observation relative to the study is that even though there were differences between the American Indian students and their non-Indian counterparts, there appears to be significant diversity within the American Indian student population. For example, 29 percent of the American Indian student population came from cities with a population greater than 50,000.¹ In the category of Parental Educational Background, the study showed that 20 percent of the fathers of the American Indian student population had earned a bachelor's degree.² In the Family Income section, the study indicated that 23 percent of the families of the American Indian students earned \$20,000 or more.³

Within this cohort of American Indian freshmen, there were twenty-five American Indian tribes represented (See Table 7, page 44). These data clearly demonstrate the diversity of tribal backgrounds within the American Indian student population at the University of Oklahoma.

Data Collection

Data for this analysis were collected from the student's structured cumulative folder maintained by the University of Oklahoma, and from two scales, The Cultural Orientation Scale and The University Integration Scale.

¹ Ibid., p. 16.

² Ibid., p. 17.

³ Ibid., p. 20.

TABLE 7

LIST OF AMERICAN INDIAN TRIBES REPRESENTED IN THIS STUDY

<u>NUMBER</u>	<u>TRIBE</u>	<u>N VALUE</u>
01	Comanche	7
02	Cherokee	14
03	Kiowa	14
04	Apache	2
05	Pottawotamie/Choctaw	1
06	Wynedott	1
07	Seminole	4
08	Quapaw/Taos	1
09	Otoe/Pawnee/Sioux/Cheyenne	1
10	Pawnee/Choctaw	1
11	Choctaw/Cherokee	3
12	Kiowa/Delaware	1
13	Creek	3
14	Ponca	1
15	Caddo	2
16	Sac & Fox	2
17	Comanche/Otoe	3
18	Comanche/Creek	2
19	Osage/Otoe	1
20	Kiowa/Comanche	1
21	Choctaw	3
22	Mohawk/Cherokee	1
23	Creek/Seminole	1
24	Pawnee/Cherokee	1
25	Osage	1

Questionnaires containing scale items were sent to all members of the cohort. A copy of the questionnaire appears in Appendix A.

A personal letter containing instructions, questionnaire, and a return envelope was mailed to each member of the cohort of American Indian students. Local addresses provided by the students to the Office of Admissions and Records were used for the mailing. A copy of the personal letter and instruments appears in Appendix B. Three weeks after the initial mailing of the letter and instruments to the population of American Indian students, follow-up letters and instruments were mailed to all nonrespondents. Two weeks after the mailing of the follow-up letter, a final attempt to gain responses from all students who had failed to respond was conducted by telephone. A copy of the follow-up letter appears in Appendix C. The final result of all data collection produced responses from 72 of the 101 members of the study population for a response of 71 percent.

The structured cumulative files maintained by the University Records Office were used to gather the following data on each student: (1) Accumulated high school average; (2) A.C.T. scores; English, Math, Socio Science, Natural Science and composite score; (3) Date of graduation; (4) Name and address of parent or guardian; (5) Number of hours completed at the University of Oklahoma each semester;

(7) Accumulated number of hours completed at the University of Oklahoma; (8) Accumulated grade point average at Oklahoma University. The forms used to gather this data appear in Appendix D.

Statistical Treatment

The primary interest of the investigator was to describe the characteristics of a cohort of American Indian students at the University of Oklahoma and to determine which characteristics were instrumental in leading some to persist and others not to persist. The purpose of the analysis is to test the relationships among variables in the model. The statistical procedure used to assess the strength, direction, and quality of these relationships is multiple regression.

Kerlinger describes multiple regression analysis in the following manner:

"In multiple regression analysis variables, X_1 , X_2 , . . . X_K , then Y , the Y and the results of the calculations tell us how "good" the prediction is and approximately how much of the variance of Y is accounted for by the "best" linear combination of the independent variables."¹

The multiple regression method yields partial regression coefficients and multiple correlations which are used in

¹Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt Rinehart and Winston, 1973), p. 604.

determining the strength, direction, and quality of the relationships among the variables.

Definition of Terms

The following are a list of terms that are used in the study. It is important to understand the limited definition of these terms in order to fully appreciate the study.

1. Persisting Student - for the purpose of this study, it refers to the student who completed four academic years 1975-1979 in the anticipated sequential order without interruption.
2. Non-Persisting Student - refers to any student who officially withdrew from the University of Oklahoma and interrupted the anticipated sequential order of academic progression.
3. American Indian - This term is used interchangeably with Native-American and Indian. For the purpose of this study, the terms were utilized as defined by the Bureau of Indian Affairs: "To receive a higher education grant a student must be a member of a federally recognized tribe, have one-fourth or more Indian blood, and be accepted by an accredited institution."¹
4. Scholastic Aptitude - refers to the sub-scores achieved by each student in the sample on the American College Testing Program (ACT). The terms English, Mathematics, Natural Science, Social Science, and Composite referred to the various sub-scales of the American College Testing Program.
5. The term Credits attempted refers to the total number of hours or credits attempted on a semester basis by the persisting and non-persisting students at the University of Oklahoma.

¹U. S. Government, GAO, 1977:1.

6. The term credits earned refers to the number of credits or hours earned on a semester basis by the persisting and non-persisting students.
7. The University refers to the University of Oklahoma, unless otherwise specified.
8. Familial Educational Attainment refers to the number of years of education attained by the student's parents.
9. High School grade point average - refers to the final average grade for all combined work in high school; also designated by G.P.A.
10. Physical Indianness - refers to the percent of Indian blood.
11. Integration into the university community - refers to the degree that a student feels part of the university community as measured by the Suarez Integration Scale.
12. Attachment to Indian culture - refers to the degree of Indian culture maintained by Indian students as measured by Suarez Attachment to Indian Culture Scale.

Limitations

The population of American Indian students was taken from one major university, the University of Oklahoma. The population of this study consisted of American Indian students who were enrolled in the University of Oklahoma - Norman campus on a full-time basis (i.e., registered for 12 semester hours or more) and were classified by university standards as freshmen for the 1975-76 academic year. These students were also recipients of Bureau of Indian Affairs Scholarships. Other limitations that should be stated are the instruments designed for this study, the

procedures used were developed exclusively for this study. A control group of non-Indian students was not used for this study. Future research involving this type of study should consider a "panel design" in order for the researcher to make observations relative to culture and integration into the university community. Generalizations from these data to other groups of students should not be drawn without appropriate qualification.

Summary

This chapter reports the methodology used in the study. The information provided included: (1) Design; (2) Research hypothesis; (3) Instrumentation; (4) Population; (5) Data collection; (6) Statistical treatment; (7) Definition of terms; and (8) Limitations of the study.

CHAPTER IV

RESEARCH FINDINGS AND ANALYSIS

The problem stated formally and cast in hypothesis form may be informally summarized as follows. First, it has been argued that several antecedent variables affect integration into the university community. The extent to which a student becomes integrated is contingent upon high school grade point average, A.C.T. composite score, family income, parents' educational attainment, percent of Indian blood, and attachment to Indian culture. Higher high school G.P.A., A.C.T. scores, family income, and parental educational attainment are all said to facilitate student's integration into university community. Greater percent of Indian blood and attachment to Indian culture are argued to result in lower levels of integration into the university community by the student. In the second phase of the model, the effects of these antecedent variables on persistence are said to be mediated through the integration variable, as well as having some direct effects that circumvent the intervening variable or are not mediated through it. In

other words, some of the effect of high school G.P.A. is direct--students with higher G.P.A.'s in high school are expected to complete more hours in college than those with lower high school G.P.A.'s. However, some of the effect of high school G.P.A. on hours completed is indirect--it takes place because those with higher high school G.P.A.'s are more likely to feel integrated into the Oklahoma University community and those students who are more integrated are expected to persist longer than those who are not so well integrated.

Statistical Examination

The statistical analysis consists of two steps. First, bivariate correlations are computed to determine the strength and direction of relationships between all pairs of variables. A summary of these statistics, in the form of a bivariate correlation matrix, is presented in Table 8, p. 52. Second, since the study is concerned with evaluating the persistence model in causal terms (rather than simply in terms of which variables are correlated), components of the model next are examined in an integrated series of regression solutions. These statistics are summarized in Table 9, page 57.

Examination of the Bivariate Correlation Matrix

In order for causal relations to be established, there must be intercorrelations between variable pairs.

TABLE 8

BIVARIATE CORRELATIONS AMONG VARIABLES IN MODEL

*Variable Names	(1) H. S. GPA	(2) ACT Comp.	(3) Fam. Inc.	(4) Fath. Educ.	(5) Moth. Educ.	(6) % Ind. Bld.	(7) INDC	(8) UNIV	(9) HOURS
(1) H. S. GPA	---	.43	.11	.13	.10	-.01	-.07	.16	.40
(2) ACT Comp.		---	.18	.15	.20	-.16	-.04	.15	.41
(3) Fam. Inc.			---	.38	.63	-.29	-.29	.20	.27
(4) Fath. Educ.				---	.64	-.22	-.00	.47	.28
(5) Moth. Educ.					---	-.21	-.14	.19	.32
(6) % Ind. Bld.						---	.32	-.15	-.14
(7) INDC							---	-.28	-.28
(8) UNIV								---	.41
(9) HOURS									---

$P < .05$ FOR ALL CORRELATIONS LARGER THAN .22.

*Variable Names:

The following are the names of the variables: (1) High school grade point average; (2) A.C.T. composite scores; (3) Family income; (4) Father's educational attainment; (5) Mother's educational attainment; (6) Per cent of Indian Blood; (7) Attachment to Indian culture (high score is greater attachment to Indian culture); (8) Integration into the university community (high score is greater integration into the university); (9) Hours refers to persistence in the university.

The bivariate correlation matrix includes all antecedent, intervening, and dependent variables. The major concern at this point are intercorrelations with the integration and persistence variables. These can be assessed by examining columns 8 and 9 of the correlation matrix in Table 8 (page 52). Turning first to column 8, the integration variable, all correlations in that column are in the expected direction, i.e., the first five are positively correlated with integration into the Oklahoma University community and the last two are negatively correlated. However, only two of the variables have significantly high correlations with the integration variable: father's educational attainment (.47) and attachment to Indian culture (-.28). This means that, at the level of the individual pairs of variables, students in the population most likely to feel integrated are those students with better educated fathers and those with lower attachment to Indian culture.

The magnitudes (or strengths) of the other correlations do not exceed that which might be found by chance alone when variable-pairs are in fact not correlated. Further, it can be anticipated now that only two of the antecedent variables may be mediated through the integration variable-- father's education and attachment to Indian culture.

Turning to column 9, it is noted that a number of significant relationships emerge when the persistence variable is assessed. Students of high academic achievement

in the form of higher high school grade point average (.40) and higher A.C.T. composite score (.41) completed more college hours than students who had relatively lower academic achievement. Students whose parents earned a high income (.27) and whose parents had a high educational attainment (.28 and .32 for father and mother, respectively) completed more hours than students whose parents earned lower incomes and attained lower educational levels. Also, the analysis reveals a negative relationship between attachment to Indian culture and persistence (-.28). This means that students who maintained a high degree of attachment to Indian culture did not persist at the same rate as students with lower levels of attachment to Indian culture. The data further show that students who were well integrated into the university community (.41) persisted at a greater rate than students who did not feel well integrated into the Oklahoma University community. In sum, students who arrived on campus with high A.C.T. scores, high grade point averages, high family incomes, parents who had high educational attainment, low attachment to Indian culture, and who became well integrated into the university community all persisted at a higher rate than those who did not.

There are a few additional relationships in the matrix that should be mentioned. There is a significant relationship between high school grade point average and A.C.T. composite score (.43). Simply, students with high

grade point averages in high school are likely also to have high A.C.T. composite scores. There is a significant relationship between father's educational attainment and mother's educational attainment (.64). The suggestion is that persons marry those of similar educational levels. Family income is significantly correlated with mother's and father's educational attainment (.63 and .38, respectively). This underscores the well-documented finding that persons of higher education also are likely to have higher incomes than those completing fewer years of school. Income has two other important correlates here. The greater the percent of Indian blood a person possesses, the lower the income (-.29) and the more attached a person is to Indian culture, the lower the family income (-.29). Also, the greater the percent of Indian blood the less is the father's educational attainment (-.22). Finally, the greater the percentage of Indian blood the greater is the attachment to Indian blood culture (.32). All this appears to suggest that the more "Indian" a person is (as defined by percent of Indian blood and/or attachment to Indian culture) the less education and income the person is likely to have attained.

Examination of Multiple Regression Statistics

Since the study is concerned with evaluating the Persistence Model in causal terms, rather than simply in terms of which variables are correlated, components of the

model also examined in the context of an integrated series of regression solutions. The standardized regression coefficients provide an indication of each independent variable's impact on the dependent variable relative to other independent variables designated in that component of the model. The square of the multiple correlation or otherwise known as "shared variance" indicates the percentage of variation in the dependent variable accounted for by taking specified independent variables into consideration. As Kerlinger states: ". . . the multiple correlation coefficient expresses the magnitude of the relation between, on the one hand, the best possible combination of all the independent variables and, on the other hand, the dependent variable."¹

In short, the multiple regression method yields partial regression coefficients and multiple correlations which are use in determining the strength, direction, and quality of the relationships among the variables. Summaries of statistics derived from the series of regression solutions are presented in Table 9, p. 57.

Examination of Multiple Regression Statistics Table

Since the model proposes an intervening variable in accounting for persistence, the first step must focus on the antecedent variables and the intervening variable.

¹Fred N. Kerlinger, Foundations of Behavioral Research, (New York: Holt Rinehart and Winston, 1973), p. 171.

TABLE 9

REGRESSION COEFFICIENTS AND MULTIPLE CORRELATIONS

Dependent Variable	Independent Variables	b	s. e. of b	B	R	R ²
UNIV	H. S. GPA	.302	1.542	.021	.634	.402
	ACT Comp	.155	.202	.095		
	Fam. Inc.	.000	.000	.000		
	Fath. Educ.	2.100*	.460	.700*		
	Moth. Educ.	.614	.498	.240		
	% Ind. Blood	-.053	.030	-.206		
	INDC	-.379*	.119	-.384*		
HOURS	H. S. GPA	20.473*	7.420	.303*	.699	.489
	ACT Comp	2.064*	.977	.264*		
	Fam. Inc.	-.000	.001	.051		
	Fath. Educ.	-1.481	2.640	-.104		
	Moth. Educ.	3.518	2.432	.288		
	% Ind. Blood	-.009	.147	-.007		
	INDC	-.416	.629	-.008		
UNIV	1.529*	.687	.320*			

*COEFFICIENT IS MORE THAN TWICE ITS STANDARD ERROR.

This is done in the first "half" of Table 9. The standardized regression coefficients (B) represent the effects of an antecedent variable on the integration variable while controlling for all other antecedent variables.

Consistent with evidence discovered in the bivariate correlation matrix in Table 8 (Father's educational attainment .47, and Attachment to Indian culture -.28), two of the antecedent variables are found to have direct effects on integration. Students whose fathers have completed more education (.71) become more integrated into the university community, even when the effects of all other antecedent variables are taken into account. Also, attachment to Indian culture is inversely related to integration (-.38). This means that students who retain their respective cultural orientation are less apt to integrate into the university community than those who did not retain a high degree of American Indian culture. Students who do not retain their Indian culture, or never had exposure to Indian culture, are more inclined to become integrated into the university community, possibly because they experience fewer value conflicts. As in the case of the relationship between the father's education and integration, this effect holds true even when controlling for the simultaneous effects of all antecedent variables.

The second examination focuses on the antecedent, intervening, and dependent variables. If effects of antecedent variables on persistence are mediated through the intervening variable, there should be no significant

relationships between the antecedent variables and persistence when all are considered simultaneously. If significant relationships exist between the antecedent variables and the dependent variable when all variables are considered simultaneously, these can be interpreted as direct effects on persistence by the antecedent variables. The effect of an antecedent or intervening variable on the dependent variable, controlling for all other variables, are reflected in the standard regression coefficients (B).

Consistent with evidence discovered in the bivariate correlation matrix in Table 8, (high school G.P.A. .40, A.C.T. composite score .41, and integration into the university community .41), two of the antecedent variables and the intervening variable are found to have direct effects on persistence. Students with higher grade point average in high school completed more hours of coursework than students with lower G.P.A.'s (.30). The same trend holds true for students who had higher A.C.T. composite scores (.26). These two findings appear to be consistent with the literature which suggests that high school grade point average and A.C.T. composite scores are good predictors of university persistence. These effects are direct, i.e., they are not mediated through the integration variable. Students who are well integrated into the university community do complete more hours of coursework than students who are not so well integrated into the university community (.32). Father's educational level and attachment to Indian culture, though correlated with the persistence variable (See Table 8), have no

direct effect on persistence when controlling for differences in level of integration into the Oklahoma University community (-.104 and -.008, respectively). This may be taken to mean that their effect on persistence is mediated entirely through the integration variable.

Examination of the Hypotheses

The first objective in this section is to address the set of hypotheses which deal with the concept of integration into the university community, which is the intervening variable in the research design presented in Chapter III. This exercise will summarize formally the relationships and effects of the antecedent variables upon the intervening variable.

H_1 : The higher a student's A.C.T. composite score, the more integrated into the university community the student is likely to feel.

H_0 : There is no relationship between A.C.T. composite score and the score of the integration scale.

In the bivariate correlation matrix (Table 8), the A.C.T. composite score variable does not show a statistically significant relationship with the integration variable (.15). Likewise, the A.C.T. composite score variable does not affect integration into the university community. This is evidenced by the nonsignificant standardized regression coefficient in Table 9. Therefore, the null hypothesis is not rejected, because there is no demonstrated relationship

between A.C.T. composite score and integration into the university community.

H_2 : The higher a student's high school grade point average the more integrated into the university community the student is likely to feel.

H_0 : There is no relationship between high school grade point average and score on the integration scale.

In Table 8, it is shown that the high school grade point average variable does not have a statistically significant relationship with the integration variable (.16). Also, the standardized regression coefficient in Table 9 is not statistically significant. Therefore, the null hypothesis is not rejected, because there is no demonstrated relationship between high school grade point average and integration into the university community.

H_3 : The more education a student's father has attained the more integrated into the university community the student is likely to feel.

H_0 : There is no relationship between father's educational attainment and score on the integration scale.

The correlation matrix in Table 8 shows that the father's educational attainment variable is significantly correlated with integration into the university community (.48). When father's educational attainment is analyzed in the regression equation, there also is evidence of a significant effect on the integration variable. Therefore,

the null hypothesis is rejected, because there is a significant statistical effect of father's educational attainment on integration into university community.

H_4 : The more education a student's mother has attained the more integrated into the university community the student is likely to feel.

H_0 : There is no relationship between mother's educational attainment and score on the integration scale.

In the bivariate correlation matrix in Table 8, the mother's educational attainment variable does not show a statistically significant relationship with integration into the university community. This is evidenced by the nonsignificant standardized regression coefficient in Table 9. This indicates that mother's education attainment has no significant effect on whether a student does or does not integrate into the university environment. Therefore, the null hypothesis is not rejected, because there is no demonstrated relationship between mother's educational attainment and integration into the university community.

H_5 : The higher the student's family income the more integrated into the university community the student is likely to feel.

H_0 : There is no relationship between family income and score on the integration scale.

The bivariate correlation matrix in Table 8 shows that the family income variable does not show a statistically significant relationship with integration into the

university community (.20). Likewise, when family income is analyzed on the Standardized Regression Table 9 under the first component, there also is no evidence that family income significantly affects the integration variable. This would suggest that family income has no significant effect on whether a student integrates into the university community. Therefore, the null hypothesis is not rejected, because there is no demonstrated relationship between family income and integration into the university community.

H_6 : The higher percent of Indian blood a student has the less integrated into the university community the student is likely to feel.

H_0 : There is no relationship between percent of Indian blood a student has and score on the integration scale.

The bivariate correlation matrix in Table 8 shows that the percent of Indian blood variable is not significantly correlated with integration into the university community (.15). Likewise, then the percent of Indian blood variable does not effect integration into the university community. This is evidenced by the nonsignificant standardized regression coefficient in Table 9 p. 57. This would suggest that family income has no significant effect on whether a student does or does not integrate into the university community. Therefore, the null hypothesis is not rejected, because there is no demonstrated relationship between percent of Indian blood and integration into the university community.

- H₇: The greater the attachment to Indian culture the less integrated into the university community the student is likely to feel.
- H₀: There is no relationship between attachment to Indian culture and the score on the integration scale.

The correlation matrix in Table 8 shows that the attachment to Indian culture variable is significantly correlated with integration into the university community (-.28). When attachment to Indian culture is analyzed in the multiple regression procedure under the first component, there also is evidence of a significant effect on the integration variable. This means that attachment to Indian culture has a significant effect on whether a student does or does not integrate into the university community. Specifically, the more attached students are to Indian culture, the less integrated they are likely to feel. Therefore, the null hypothesis is rejected.

The second objective in this section is to address the set of hypotheses which deal with the concept of persistence, as measured by the number of hours completed by individual students in the cohort. The persistence variable is the dependent variable in the research design presented in Chapter III. This exercise will summarize formally the relationships and effects of the antecedent variables and the intervening variable upon the dependent variable.

- H_1 : The higher a student's A.C.T. composite score the longer the student will persist at the university.
- H_0 : There is no relationship between A.C.T. composite scores and persistence as measured by number of hours completed at Oklahoma University.

The bivariate correlation matrix in Table 8, shows that the A.C.T. composite score variable is significantly correlated with the persistence variable (.41). When the persistence is analyzed with A.C.T. composite score and other variables in the regression equation, there is evidence of a significant direct effect on A.C.T. composite score on persistence. Therefore, the null hypothesis is rejected.

- H_2 : The higher a student's high school grade point average the longer the student will persist at the university.
- H_0 : There is no relationship between average grade point achieved in high school and persistence as measured by number of credit hours completed at University of Oklahoma.

The bivariate correlation matrix in Table 8, shows that the high school grade point average variable is significantly correlated with persistence variable (.40). When the high school grade point average variable is analyzed in the regression equation, there also is evidence of a significant direct effect on the persistence variable (.30).

- H_3 : The more education a student's father has attained the longer the student will persist at the University.

H_0 : There is no relationship between father's educational attainment and persistence as measured by the number of credit hours completed at the University of Oklahoma.

In the bivariate correlation matrix in Table 8, father's educational attainment is significantly correlated with persistence (.28). But, it is also noted that in the standardized regression column in Table 9, under the second component, that father's educational attainment has no statistically significant effect on persistence. Keeping in mind that there is a significant correlation between father's education and persistence, this suggests that the effect of father's education attainment on persistence is mediated by the intervening variable, integration. Therefore, the null hypothesis is not rejected based on the fact that there is no direct significant effect of father's education attainment on persistence. There is, however, an indirect one (See H_8).

H_4 : The more education a student's mother has attained, the longer the student will persist at the university.

H_0 : There is no relationship between mother's educational attainment and persistence as measured by number of credit hours completed at the University of Oklahoma.

In the bivariate correlation matrix in Table 8, the mother's educational attainment variable is significantly correlated with the persistence variable (.32). However, as with the previous variable, attainment variable has no statistical significant effect on persistence. This

is evidenced by the nonsignificant standardized regression coefficient in Table 9. Therefore, the null hypothesis is not rejected on the basis that there is no demonstrated relationship between mother's educational attainment and persistence.

- H_5 : The higher the student's family income the longer the student will persist at the University of Oklahoma.
- H_0 : There is no relationship between family income and persistence as measured by number of credit hours completed at the University of Oklahoma.

The bivariate correlation matrix in Table 8, shows that the family income variable is statistically correlated with persistence (.27). When the family income variable is analyzed in the regression equation, there is no evidence of a significant effect on persistence. This suggests that family income has no statistically significant effect on a student's persistence at the university. Therefore, the null hypothesis is not rejected, because there is no demonstrated statistical relationship between family income and persistence.

- H_6 : The higher percent of Indian blood a student has the less the student will persist at the university.
- H_0 : There is no relationship between degree of Indian blood a student has and persistence as measured by number of credit hours completed at the University of Oklahoma.

In the bivariate correlation matrix in Table 8, the physical Indianness variable does not show a

statistically significant relation (-.14). Likewise, then the physical Indianness variable has no statistical significant effect on persistence. This is evidenced by the nonsignificant standardized regression coefficient in Table 9. Therefore, the null hypothesis is not rejected, because there is no demonstrated relationship between physical Indianness and persistence.

H_7 : The greater attachment to Indian culture a student has--the less the student will persist in the university.

H_0 : There is no relationship between the score on the attachment to Indian culture scale and persistence as measured by number of credit hours completed at the University of Oklahoma.

In the bivariate correlation matrix in Table 8, the attachment to Indian culture variable is statistically correlated with persistence (.28). But, in the standardized regression Table 9 under the second component, the attachment to Indian culture variable has no statistically significant affect on persistence. Keeping in mind that there is a significant correlation between father's education, this suggests that the effect of attachment to Indian culture on persistence is mediated by the intervening variable, integration. Therefore, the null hypothesis is not rejected based on the fact that there is no direct statistical effect of attachment to Indian culture on persistence. There is, however, an indirect one (See H_8).

- H_8 : The more integrated a student is into the university community the longer the student will persist at the university.
- H_0 : There is no relationship between the score on the integration scale and persistence as measured by number of credit hours completed at the University of Oklahoma.

The bivariate correlation matrix in Table 8, shows that the integration variable is statistically correlated with persistence (.41). When the integration variable is analyzed in the regression equation, there also is evidence of a significant effect on persistence. Therefore, the null hypothesis is rejected, because there is a significant statistical effect on integration into the university community on persistence. This variable also mediates the effects of father's education and attachment to Indian culture on persistence.

SUMMARY

This chapter has presented an analysis of the data used to determine the rejection or failure to reject the two sets of hypotheses (cast in the null form) concerning the integration into the university community and persistence at the university. In the first set, which addresses integration into the university community, there are seven hypotheses. Five of the hypotheses are not rejected in the null form, because there are no significant statistical relationships are detected. Two hypotheses are rejected in the null form because of significant statistical effects are found. The second set of hypotheses addressing the persistence issue, five of the hypotheses

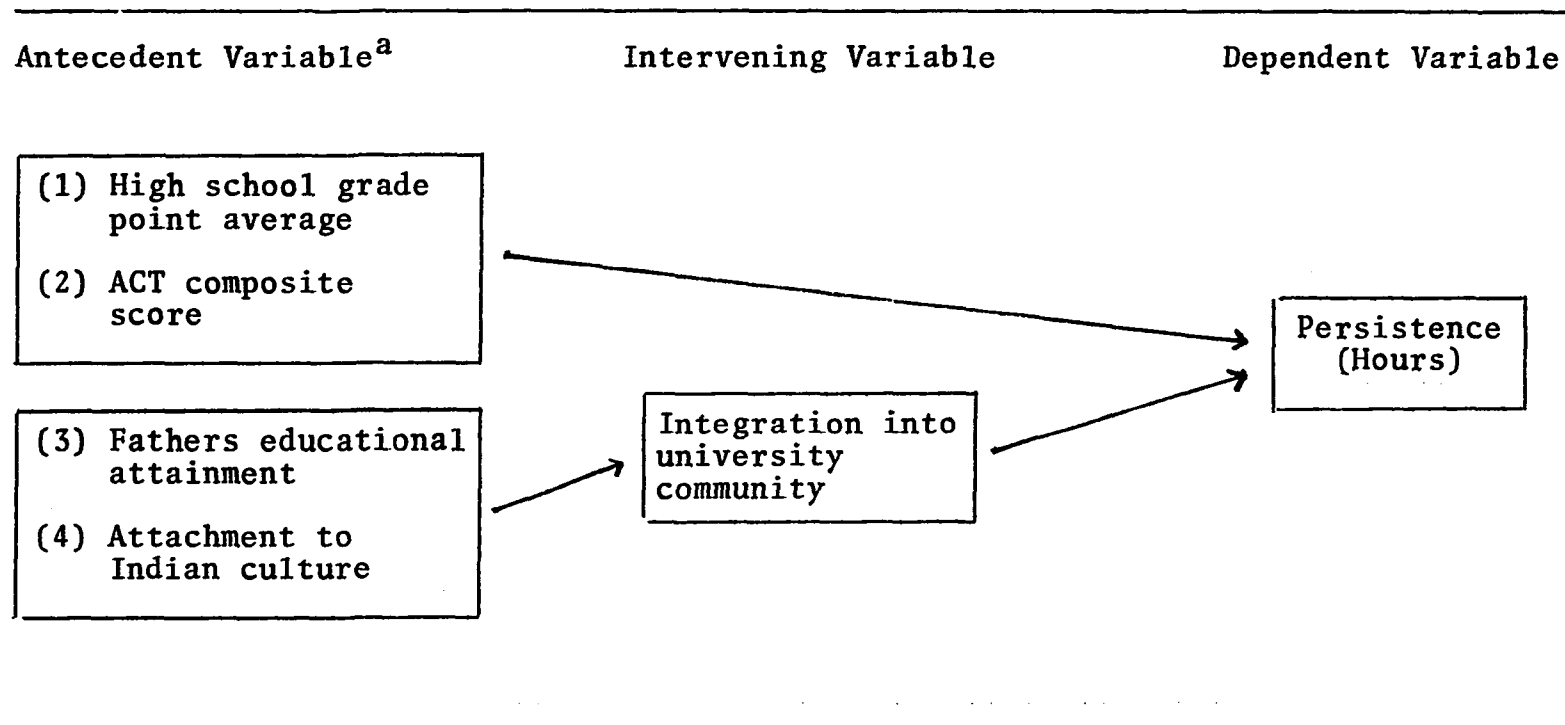
are not rejected, because of the lack of significant statistical evidence, and three hypotheses are rejected because of significant statistical effects are detected.

The data point to three variables that effect persistence. The three variables are (1) high school grade point average, (2) A.C.T. composite score, and (3) integration into the university community. Table 9 (page 57) shows the standardized regression coefficients which provides an indication of the impact by each antecedent variable on the intervening and dependent variables when controlling for the simultaneous effects of all variables. In the first "half" of Table 9, (page 57), two of the antecedent variables are found to have direct effects on the intervening variable integration, they are (1) Father's educational attainment, and (2) Attachment to Indian culture. In the second "half" of Table 9, (page 57), these same two antecedent variables have no direct effect on the dependent variable, persistence. This is evidence that the effects of the two variables are mediated through the integration variable.

In summation, the analyses have demonstrated that high school grade point average, A.C.T. composite score, and integration into the university community were the only variables having independent, significant effects upon the dependent variable. In addition, the integration variable appears to mediate the effects of father's educational

attainment and attachment to Indian culture on persistence. They are key variables in the model of persistence. Figure 2, (page 72) was designed to permit a graphic representation of the relationships between the three variables that effect persistence. The parsimonious graph demonstrates the direct effects of high school grade point average and A.C.T. composite score on persistence and the indirect effect of father's education and attachment to Indian culture on persistence mediated through the intervening variable integration into the university community.

FIGURE 2
SIGNIFICANT EFFECTS OF VARIABLES ON PERSISTENCE



^aThe physical Indianness, Family income and mother's educational attainment variables were not statistically significant.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY OF THE FINDINGS

The purpose of this study is to answer the question: In what ways do American Indian students at the University of Oklahoma who are successful in completing coursework differ from those who are less successful (and eventually dropout)?

The investigation is divided into two parts. In part one, the reliability and construct validity of the proposed measures for the variables in the model are assessed. The second part of the analysis contains a test of the relationships among variables in the model.

The two scales used are: (1) Suarez Integration Into the University Community Scale, designed to assess to what degree each member of the cohort of American Indian students integrated into the University of Oklahoma; (2) Suarez Attachment to Indian Culture Scale, designed to assess to what degree each member of the cohort maintained their respective Indian culture.

The research model for this study specifies effects by five antecedent variables on the dependent variable with provisions for influence by an intervening variable. An explicit representation of the implied relationships is provided in the research model, Figure 1, (page 29).

The model lists five antecedent variables which are: (1) scholastic aptitude; (2) family income; (3) familial educational level; (4) physical Indianness; and (5) attachment to Indian culture. In addition to these five variables, there is one intervening variable, integration into the university community and one dependent variable, persistence. The research model provides for the five antecedent variables to effect the persistence variable through two pathways. The first pathway way is for any one or more of the antecedent variables to effect the variable persistence directly without being mediated by the intervening variable. The second pathway is for anyone or more of the antecedent variables to effect the variable persistence through the intervening variable integration into the university community. In other words, the antecedent variables would be subsumed or mediated by the intervening variable. The intervening variable in this case would be the mechanism by which the antecedent variables are linked to the dependent variable.

The statistical analysis consists of two steps. In the first step, bivariate correlations were computed.

In the second step, components of the model were examined in an integrated series of regression solutions. The analysis of the bivariate correlation matrix, Table 8, (page 52), can be summarized by stating that: (a) American Indian students arriving at the University of Oklahoma campus in 1975 who developed higher feelings of integration into the university community were those having fathers of higher educational attainment and having lower attachment to Indian culture; (b) American Indian students arriving in 1975 who persisted were those having higher A.C.T. scores, higher G.P.A.'s in high school, higher family incomes, parents of high educational attainment, lower attachment to Indian culture, and high feelings of integration into the university community.

There is a significant relationship between high school grade point average and A.C.T. composite score (.43). Students with high high school averages are likely to also have high A.C.T. composite scores. Father's educational attainment and mother's educational attainment have a significant statistical relationship at the bivariate level (.64). Family income is significantly correlated with mother's and father's educational attainment (.63 and .38, respectively). This reinforces the well documented finding that the more educated a person is, the more income he or she is likely to earn. Family income has two other important correlates here. The greater the percent of Indian blood a person possesses, the lower the income (-.29) and the more attached a person is to Indian culture, the lower the family income (-.29). Also, the greater the percent of Indian blood the less is the father's educational attainment (-.22).

Finally, the greater the percentage of Indian blood, the greater is the attachment to Indian culture (.32). All this appears to suggest that the more "Indian" a person is (as defined by percent of Indian blood, and/or attachment to Indian culture), the less education and income the person is likely to have attained.

The findings in the first "half" of the multiple regression Table 9, page 57, are consistent with evidence found in the bivariate correlation matrix in Table 8, two of the antecedent variables are found to have direct effects on integration. Students whose fathers have completed more education (.71) are more integrated into the university community, even when the effects of all other antecedent variables are taken into account. In addition, attachment to Indian culture is inversely related to integration (-.38). This means that Indian students who retain their cultural orientation are less apt to integrate into the university community than those who did not retain a high degree of American Indian culture. Perhaps students who do not retain their Indian culture are more inclined to become integrated into the university community, because they experience fewer value conflicts. As in the case of the relationship between the father's education and integration variables, these effects hold true even when controlling for the simultaneous effects of all antecedent variables.

The findings in the second "half" of the multiple regression table are consistent with evidence found in the bivariate correlation matrix, Table 8, (page 52). Two of the antecedent variables and the intervening variable are found to have direct effects on integration. Students with higher grade point average in high school completed more hours of coursework than students with lower grade point averages (.30). The same trend holds true for students who had higher A.C.T. composite scores (.26). These two findings appear to be consistent with the dropout literature which suggests that high school grade point average and A.C.T. composite scores are good predictors of university persistence. These effects are direct, i.e., they are not mediated through the integration variable. Students who are well integrated into the university community do complete more hours of coursework than students who are not so well integrated into the university community (.32), suggesting that integration into the university community is an important determining element in persistence. Father's educational attainment and attachment to Indian culture, though correlated with the persistence variable (See Table 8, page 52) have no effect on persistence when controlling for differences in level of integration into the University of Oklahoma community (-.10 and -.01, respectively). This may be taken to mean that their effects on persistence are mediated entirely through the integration variable.

The data identify three variables that contribute to persistence at the University of Oklahoma; high school grade point average, A.C.T. composite score, and integration into the university community have independent significant effects upon persistence. They are key variables in the model of persistence. Further, father's educational level and attachment to Indian culture are the two key variables in accounting for who becomes integrated into the university community.

In examination of the results of the testing of the two sets of null hypotheses, the following conclusions are presented. The following is the first set of null hypotheses that refer to the integration of the cohort of American Indian students into the University of Oklahoma community. Hypotheses I, II, IV, V, and VI, were all not rejected in the null form, because there were no significant statistical relationships between them and integration into the university community.

Hypotheses III was rejected in the null form, because of a significant statistical relationship between father's educational attainment and score on the integration scale.

Hypotheses VII was rejected in the null form, because there was a significant relationship between attachment to Indian culture and the integration scale. It is appropriate to suggest that the degree of Indian culture maintained by individual students affects the extent to which a student integrates into the university community. The more attached a student is, the less integrated the student will be and the less attached, the more integration will take place.

The second set of hypotheses is related to the concept of persistence as it relates to the cohort of American Indian students. Hypotheses I was rejected in the null form, because there was a significant relationship. It can be stated that A.C.T. composite score is a good predictor of college persistence for the American Indian students in this study. Hypotheses II was also rejected in the null form because there was a statistical relationship in evidence, therefore, it can safely be concluded that high school G.P.A. is also a good predictor of college persistence. Hypotheses III, IV, V, VI and VII were all not rejected in the null form because there was no significant relationship between them and persistence. Hypotheses VIII was rejected in the null form because there was a statistical relationship. It can be stated that the degree of integration determines persistence.

CONCLUSIONS

The higher degree of integration into the university community, the more likely American Indian students were to persist. The lower degree of integration into the university community, the less likely students were to persist.

The significant effects of variables on persistence are listed in a parsimonious model on page 72. It is noted that four antecedent variables are listed as opposed to the original seven. The reason for this reduction in variables was due to the vigorous statistical examination, which eliminated three of the original variables. The variables

eliminated were: (1) family income; (2) mother's educational attainment, and (3) physican Indianness. Focusing on Figure 2, (page 72), it is clear that scholastic ability, i.e., high school G.P.A. and A.C.T. composite scores directly effected persistence. This appears to be consistent with the dropout literature that measured ability is clearly related to college success. For instance, Marks asserts that the only reliable conclusion emerging from non-persistence research activity is that students with poor high school preparation or low scholastic aptitude have a higher incidence of college withdrawal.¹ It is noted that father's educational attainment and attachment to Indian culture are two variables that do not effect persistence directly but do effect persistence indirectly. These two variables are mediated by the intervening integration variable which in turn directly effects persistence. The intervening variable is the mechanism by which father's educational attainment and attachment to Indian culture are linked to persistence. Here again, these findings appear to be consistent with the literature of college persistence. S Students with better educated parents tend to be more committed to college. An example is found in Tinto's work. He has suggested that past experience and family contribute a great deal of influence on outcome and therefore play a decided role in whether an individual succeeds in college.² Thus, one can argue that American Indian

¹Edmond Marks, "Student Perceptions of College Persistence, and Their Intellectual, Personality and Performance Correlates," Journal of Educational Psychology, 58 (1967: 220).

²Vincent Tinto, "Dropout From Higher Education: A Theoretical Synthesis of Recent Research," Review of Educational Research 45 (Winter, 1975): 94.

students in the study group were influenced by the familial and cultural backgrounds which effect their ability to integrate into the university community as is the case with students in general. The idea of integration itself is of great importance, insofar as college success is concerned. According to Tinto: "A student should feel comfortable in his environment to do well academically."¹

The interactionist theory appears to be reinforced by the findings of this study. Attachment to Indian culture was inversely related to persistence at the bivariate level, but in the regression solution the attachment to Indian culture variable was mediated by the integration into the university community variable. This would suggest that students who have a high attachment to American Indian culture do not persist whereas those students with low attachment to Indian culture persist longer. The interactionists would suggest that the environment has a great influence on persistence and the proper environment does not appear to be in evidence at the University of Oklahoma by virtue of the low persistence rate. The suggest is further made that in order to follow resolution there be an effort to mainstream Indian traditions and values to promote integration into the university community.

In regard to the study cohort of American Indian students, it can be reported that those who persisted for eight semesters had good high school grade point averages, had high A.C.T. composite scores, had fathers with high educational attainment, had

¹Ibid., p. 94.

less attachment to Indian culture and most of all were well integrated into the university community,

A persistence expectancy table to determine the number of accumulated hours and a table to determine the number of semesters completed before they dropped out has been prepared to further detail the findings from this study. In Table 10, (page 83), it is demonstrated that persistence expectancy of this cohort of American Indian students at the University of Oklahoma was 48.16 credit hours. In Table 11, (page 84), it is seen that a comparative expectancy table of all freshmen students who entered in the Fall of 1974 at the University of Oklahoma was 6.07 semesters. But, in Table 12, (page 85), the cohort of American Indian student's persistence expectancy was 4.8 semesters. This data indicates that the American Indian students in this study did not persist at the same level as did all other freshmen students.

Of the 101 students who entered in 1975, only 22 were still enrolled in the Fall of 1979. Of the 22 still enrolled, 6 graduated in eight semesters. This study permits the suggestion that American Indian students arrive on campus less able to cope with their new environment, they performed at a lower level, they stayed a shorter amount of time and fewer persisted through 8 semesters of work.

RECOMMENDATIONS

The following recommendations stem from the findings of this study.

TABLE 10
 PERSISTENCE EXPECTANCY TABLE OF THE UNIVERISTY OF OKLAHOMA 1975
 AMERICAN INDIAN FRESHMAN STUDENTS
 IN MEASURED ACCUMULATED CREDIT HOURS

(A) HOURS	(B) FREQUENCY	(A X B)	(A) HOURS	(B) FREQUENCY	(A X B)	(A) HOURS	(B) FREQUENCY	(A X B)
0	6	0	29	1	29	78	1	78
3	1	3	32	1	32	79	1	79
6	3	18	35	1	35	83	2	166
7	1	7	38	1	38	85	3	255
8	2	16	43	2	86	86	1	86
9	1	9	46	2	92	87	1	87
12	5	60	49	1	49	89	2	178
13	1	13	52	1	52	91	1	91
14	3	42	53	3	159	93	2	186
15	2	30	54	1	54	94	1	94
16	2	32	55	2	110	96	1	96
18	1	18	60	1	60	98	1	98
19	1	19	61	1	61	103	2	206
21	3	63	62	2	124	105	1	105
22	1	22	63	1	63	106	2	212
23	2	46	65	1	65	108	1	108
24	4	96	67	1	67	109	2	218
25	1	25	69	1	69	110	1	110
26	1	26	71	3	213	111	1	111
27	1	27	72	1	72	114	1	114
28	3	84						
							101	4,864

$$\frac{(A \times B)}{101} = 48.16$$

Persistence expectancy of Indian students in measured accumulated hours was 48.16 credit hours.

TABLE 11
 PERSISTENCE EXPECTANCY TABLE OF UNIVERSITY OF OKLAHOMA
 1975 FRESHMEN STUDENTS IN MEASURED SEMESTERS

All Students

(A) SEMESTER	(B) NUMBER OF STUDENTS DROPPED OUT	(A X B)
1st	158	158
2nd	52	104
3rd	376	1,128
4th	181	724
5th	216	1,080
6th	118	708
7th	155	1,085
8th	<u>1,372</u>	<u>10,976</u>
8 semester	2,628 students	15,976 Total

$$\frac{15,963}{2,628} = 6.07$$

Persistence expectancy of University of Oklahoma 1975 freshmen student was 6.07 semesters.

TABLE 12
 PERSISTENCE EXPECTANCY TABLE OF THE UNIVERSITY OF OKLAHOMA
 1975 AMERICAN INDIAN FRESHMEN STUDENTS
 IN MEASURED SEMESTERS

American Indian Students

(A) SEMESTER	NUMBER	(B) OF STUDENTS DROPPED	(A X B)
1st		5	5
2nd		16	32
3rd		25	75
4th		5	20
5th		8	40
6th		7	42
7th		9	63
8th		26	208
8 semester		101 students	485 Total

$$\frac{485}{101} = 4.80$$

Persistence expectancy of Indian students in measured semesters was 4.8 semesters.

1. Research concerning American Indian students has been practically non-existent, and what is available is sketchy. The students have rarely been asked what problems they have encountered in coming to a university setting. Further research efforts are needed to probe more extensively the reasons contributing to the withdrawal of up to 72.2% of students before the end of eight semesters or graduation.
2. This study indicates that the lack of integration into the university community is a major factor in the non-persistence of American Indians; therefore, additional study of the perceptions and attitudes of American Indian students is recommended. Administrative and counseling personnel need to know more about American Indian students and how they differ from other students. Research is needed in order to determine how the university can best manipulate the environment in order to make the integration process easier for American Indian students.
3. Since the findings of the research revealed cultural problems encountered by American Indian students differentiate between persistence and non-persistence, colleges and universities should provide resources in the identification and resolution of these cultural problems.

4. The finding of the study point to the fact that American Indians do not feel good about their environment at the University. Therefore, it is recommended that the University improve existing American Indian studies programs. Leitka asserts in his study of "Native American Studies" that, "those schools with native studies programs are attracting a larger number of Indian students and at the same time are decreasing the dropout rate among Indians . . ."¹ In addition to providing financial resources in creating or upgrading existing programs, administrators should also recruit qualified American Indian personnel. Leitka further states, "It was found that those schools with programs specifically designed to aid the Indian students in their pursuit of higher education had a greater number of counselors, of whom a majority were Indians, assigned to counsel and help the Indian students. Those schools with Indian programs also offered a greater number of Indian related courses and utilized more Indian-produced materials."²

¹Eugene Leitka, "A Study of Effectiveness of Existing Native American Studies Programs in Selected Universities and Colleges", (Ph.D. Dissertation, New Mexico State University, Las Cruces, New Mexico, 1973), p. 63.

²Ibid., p. 63.

SUMMARY

The principle research question of this study is: In what ways do American Indian students at the University of Oklahoma who are successful in completing coursework differ from those who are less successful (and eventually dropout)?

The findings of this study show that American Indian students were doomed for failure if they insisted on retaining their culture. The study shows that students were unable to adjust to the university environment and did not integrate into the university community in a manner that made them feel confident and good about themselves. Now, on the other hand, when American Indians arrived on campus with a low degree of Indian cultural orientation, the study shows that integration was easier and they persisted longer and eventually received a degree. Interactionists would suggest that in order to follow resolution to low levels of persistence by American Indian students, the environment must be altered in order to promote integration into the university community.

The compelling challenge for the university is to alter the trend of high attrition of American Indian students.

APPENDIX A
QUESTIONNAIRE

QUESTIONNAIRE

The data gathered in this questionnaire will be used in my dissertation. I am optimistic that the analysis of responses will provide insight into developing improved educational experiences for American Indian students. I promise to keep any one set of responses confidential and to present the data in the study only in "grouped" form.

Please use the following response format to circle you response to each of the statements below.

1. strongly agree
2. agree somewhat
3. undecided
4. disagree somewhat
5. strongly disagree

- 1 2 3 4 5 (1) In my experience most students found it easy to get the help they needed at the University of Oklahoma.
- 1 2 3 4 5 (2) I think that the University of Oklahoma attempted to involve students in University activities.
- 1 2 3 4 5 (3) My parents liked to come to the University of Oklahoma for special days like Mom's Day, Dad's day, and the like.

- 1 2 3 4 5 (4) The University of Oklahoma made special efforts to assist and help students of different races.
- 1 2 3 4 5 (5) I felt free to join a fraternity or sorority at the University of Oklahoma.
- 1 2 3 4 5 (8) I enjoyed intramural sports at the University of Oklahoma.
- 1 2 3 4 5 (9) The University of Oklahoma had excellent theater plays and shows for students like me to attend.
- 1 2 3 4 5 (10) School spirit was very evident at student activities at the University of Oklahoma.

The following section concerns your views on participation in American Indian culture. Please use the same response format as above.

1. strongly agree
2. agree somewhat
3. undecided
4. disagree somewhat
5. strongly disagree

- 1 2 3 4 5 (11) Attending pow-wows is an important part of American Indian lifestyle.
- 1 2 3 4 5 (12) American Indian students should be knowledgeable about their heritage.
- 1 2 3 4 5 (13) American Indian should learn to speak their native tongue.
- 1 2 3 4 5 (14) More American Indians should attend Indian pow-wows.
- 1 2 3 4 5 (15) It is important to belong to an Indian organization.

- 1 2 3 4 5 (16) The American Indian medicine man is very important to American Indians.
- 1 2 3 4 5 (17) American Indian studies are an important part of every Indian student's college program.
- 1 2 3 4 5 (18) American Indians should only marry other American Indians.
- 1 2 3 4 5 (19) It is more beneficial for American Indians to live in an all Indian neighborhood.
- 1 2 3 4 5 (20) American Indian political groups should help only American Indians.

Please fill out this final section that contains important questions that deal with social characteristics.

- (1) Have your parents or guardians lived on a reservation?
 _____ A. yes _____ B. no
- (2) What was your father's occupation in 1975? _____
 What was your mother's occupation in 1975? _____
 What was your guardian's occupation in 1975? _____
- (3) What was the approximate income of your parents or guardians in 1975? _____
- (4) What was, or is your father's educational attainment? _____
 What was, or is your mother's educational attainment? _____
 What was, or is your guardian's educational attainment? _____

- (5) What was the approximate size of the town or city you grew up in? _____
- (6) To which tribe do you belong? _____
- (7) What is your degree of Indian blood? _____
- (8) Did you complete your degree at the University of Oklahoma?
_____ A. yes _____ B. no
- (9) If NO.
- (A) What would you say was the major difficulty you encountered at O. U.?
- (B) What could the University of Oklahoma have done to help improve your educational experience?

APPENDIX B

LETTER OF INSTRUCTION

June 13, 1980

Dear _____,

I am conducting a study on the academic experiences of American Indian students who were freshmen in the Fall of 1975. This study is being conducted in fulfillment for my doctoral degree in Higher Education Administration. I am hopeful that information gathered in this study will help improve educational experiences for American Indian students.

Your name was selected because the University's records show that you were a freshman in 1975. I am requesting your assistance in providing a personal reaction to your experience at the University of Oklahoma. Your responses will be kept strictly confidential and will become a part of the statistical report.

Would you please complete the enclosed questionnaire, seal it in the self-addressed envelope provided, and return it to me. It is understood that you are free to refuse to answer any question at any time without prejudice to you.

Thank you for your assistance. If you have any questions concerning this survey or its use, please call me at 528-3266 or 325-4152.

Sincerely,

Omero Suarez

APPENDIX C
FOLLOW UP LETTER

July 14, 1980

Dear _____:

Recently I mailed to you a questionnaire like the one enclosed. Through the use of this questionnaire, I am trying to determine the reasons why some American Indian students are not completing their university degrees.

I certainly need your help. Please take a few minutes and respond to this questionnaire.

Thank you for your assistance. If you have any questions concerning this survey or its use, please call me at 528-3266 or 325-4152.

Sincerely,

Omero Suarez

ac/

Enclosures

APPENDIX D
FORM USED TO GATHER DATA FROM
REGISTRAR'S OFFICE

- (1) Name:
- (2) High School G.P.A. and rank:
- (3) A.C.T. scores:
English Math Soc. Science Nat. Science Composite
- (4) Date of Graduation:
- (5) Name and address of parent or guardian:
- (6) Number of hours completed at O. U.
- (7) University G.P.A.

Name _____

	Fall 75-76	Spring 75-76	Fall 76-77	Spring 76-77	Fall 77-78	Spring 77-78	Fall 78-79	Spring 78-79
(1) Number of hours completed.								
(2) Grade point average.								
(3) Accumulated number of hours completed.								
(4) Accumulated grade point average.								

APPENDIX E
INSTRUMENT TO MEASURE INDIAN CULTURAL ORIENTATION

INSTRUMENT TO MEASURE INDIAN CULTURAL ORIENTATION

		Loading for 1-factor Solution
1.	Attending pow wows is an important part of Indian lifestyle.	.69
2.	American Indian students should be knowledgeable about their heritage.	.65
3.	American Indians should learn to speak their native tongue.	.46
4.	More American Indians should attend Indian pow wows.	.86
5.	It is important to belong to an Indian organization.	.68
6.	The American Indian medicine man is very important to American Indians.	.61
7.	American Indian studies are an important part of every Indian student's college program.	.39
8.	American Indians should only marry other American Indians.	.62
9.	It is more beneficial for American Indians to live in an all-Indian neighborhood.	.74
10.	American Indian political groups should help only American Indians.	.55

APPENDIX F
INSTRUMENT TO MEASURE INTEGRATION
INTO THE UNIVERSITY ENVIRONMENT

INSTRUMENT TO MEASURE INTEGRATION
 INTO THE UNIVERSITY ENVIRONMENT

		Loading for 1-factor Solution
1.	Most students find it easy to get help at the University of Oklahoma.	.586
2.	The University of Oklahoma attempts to involve students in University.	.898
3.	My parents like to come to the University of Oklahoma for special days like Mom's Day, Dad's Day, and others.	.450
4.	The University of Oklahoma makes special provisions in order to assist and help people of different races.	.585
5.	I feel free to join a fraternity or sorority at the University of Oklahoma.	.694
6.	The dormitories at the University of Oklahoma are a good place to live.	.571
7.	The cafeterias at the University of Oklahoma serve well-balanced meals.	.590
8.	I enjoy playing intramural sports at the University of Oklahoma.	.482
9.	The University of Oklahoma has excellent theater plays and shows for students to attend.	.577
10.	School spirit is something which is very evident at school activities at the University of Oklahoma.	.530

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