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ABSTRACT
                The purpose of this study was to determine if there
was a statistically significant difference in selected factors
between American Indian students who persisted at the University of
New Mexico and at New Mexico State University and those who did not.
Subjects were 135 Indians and 200 non-Indians at the University of
New Mexico and 68 Indians and 100 non-Indians at New Mexico State
University. A random selection of the non-Indian students was made
from the student directories. There were 22 hypotheses tested for
significance at the .05 level by means of a step-wise discriminant
analysis technique. Variables tested for classification purposes
were: age, sex, marital status, tribal affiliation, high school rank,
high school size, ACT scores, GPA, semester course load, major field
of study, place of residence, Indian or non-Indian roommate, Indian
club membership, financial aid, and distance student travels from
home to college. It was found that the best combination of factors
related to persisting American Indian college students were: a female
student less than 19 years of age when first enrolled in college, a
graduate of a larger, public high school who ranked in the upper
third of the graduating class, had scored 17 or above on the ACT, and
chose a major field of study within the professional field. (FF)

AN INVESTIGATION OF SELECTED FACTORS RELATED TO
PERSISTENCE OF AMERICAN-INDIAN STUDENTS
AT TWO NEW MEXICO UNIVERSITIES

A Dissertation
Presented to
the Graduate School
New Mexico State University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Major Area: Educational Administration
Minor Area: Guidance and Counseling

by

Walter Stinnett Patton

May 1972

"An Investigation of Selected Factors Related to Persistence of American-Indian Students at Two New Mexico Universities," a dissertation prepared by Walter Stinnett Patton in partial fulfillment of the requirements for the degree Doctor of Education, has been approved by the following:

Max S. Smith
Chairman of the Examining Committee

Gerald M. Burke
Dean of Graduate School

May 8, 1972
Date

Committee in Charge

Dr. William C. Cross
Dr. Everett D. Edington
Dr. Timothy J. Pettibone
Dr. Jose A. Perea
Dr. John F. Halton

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VITA

The writer was born on August 23, 1929 at Bokoshe, Oklahoma.
He attended public school at Bokoshe and McCurtain, Oklahoma and
completed work for a Bachelor of Science in Education in 1967 and
a Master of Arts in Teaching in 1968 at New Mexico State University.

The writer has had a variety of work experiences beginning with
the United States Borax and Chemical Corporation at Carlsbad, New
Mexico in 1952. In 1966 he moved to Las Cruces to pursue his
educational objectives. In 1967, he served as Assistant Director
of the National Conference for Coordinating Vocational Rehabili-
tation and Educational Services for the Deaf. The Conference was
coordinated from and held on the campus of New Mexico State
University. During the 1967-68 academic year he was a graduate
assistant in the Department of Elementary and Secondary Education,
College of Education, New Mexico State University. His duties
were those of Field Supervisor of the sophomore teacher-education
cooperative students and liasion between the cooperating public
schools and the College of Education.

On June 1, 1968, he became Head Resident of Garcia Hall,
largest residence center on the New Mexico State University campus.
On July 1, 1969, he was promoted to Assistant Director, Family-
Conference housing, and then in January 1972 he was promoted to
Assistant in charge of housing administration at New Mexico State
University.

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ABSTRACT

An Investigation of Selected Factors Related to Persistence
of American-Indian Students at Two New Mexico Universities.

BY

WALTER S. PATTON, B.S., M.A.T.
Doctor of Education in Educational
Administration
New Mexico State University
Las Cruces, New Mexico, 1972
Dr. Max G. Smith, Chairman

Purpose. The purpose of the study was to identify factors related
to persistence of American-Indian students in post-secondary education at
the University of New Mexico and at New Mexico State University. For com-
parative purposes a random sample of non-Indian students were included.

Hypotheses. There were twenty-two hypotheses tested for signifi-
cance at the .05 level by means of a step-wise discriminant analysis
technique. The hypotheses stated there was no difference between Indian
persisters and non-persisters, between non-Indian persisters and non-
persisters, and between Indians and non-Indians.

The factors or variables tested for classification purposes were:
age, sex, marital status, tribal affiliation, high school rank, high school
size, ACT scores, GPA, semester course load, major field of study, place of
residence while attending college, Indian or non-Indian roommate, Indian
club membership, financial aid received, and distance student travels from
home to college.

Procedure. The basic procedures involved in the study were:

1. Identify and randomly select a 30 percent sample of
    the Indian students enrolled at the two institutions
    beginning with the 1967-68 academic year and continu-
    ing through the 1970-71 school year (N=203).

2. Select a random sample of non-Indian students at the
    two institutions for the same period (N=300).

3. To identify the factors which aided classification
    among the persisters and non-persisters.

Summary. In summary, it was found that the "best" combination of

factors related to persisting American-Indian college students were: A

female student less than 19 years of age when first enrolled in college,

a graduate of a larger, public high school who ranked in the upper third

of the graduating class, had scored 17 or above on the ACT test, and

chose a major field of study within the professional field.

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CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

Concern for educating the American-Indian is at its highest level of anytime in the history of the United States. The Indian's image is taking on a new dimension as the Native-American population rate is increasing, while concurrently the infant mortality rate is being notably reduced. A greater percentage of Indians are enrolled in school and more of them are seeking post-secondary education. However, they are still far behind the national average in the amount of formal schooling completed. Bass and Burger reported in 1967 that the average number of years of education completed by Indians is five years, compared to 11.7 years for the nation as a whole.[1] Research concerning dropouts reveal that in American public schools the Indian dropout is nearly double that of the non-Indian student, 50 percent and 20 percent, respectively, and the gap widens even more in higher education.[2] The dropout rate for American-Indians at some institutions of higher learning is reported to be as high as 60 percent and more.[3] There is a growing awareness of the need

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[1]Willard P. Bass and Henry C. Burger, American Indians and Educational Laboratories, (Albuquerque, N.M.: Southwestern Cooperative Educational Laboratory, Inc., 1969), Page 3.

[2]Ibid., page 4.

[3]Ibid., page 4.

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for more formally educated Indians, an awareness shared by both Indian and non-Indian.

In the past two decades there have been many conferences and studies on a multiplicity of related problems. Although the majority of these have been directed toward the problems of the high school Indian student, new avenues of attack are beginning to open as more information is being sought regarding the experience of American-Indians on the college scene. Bass studied a random sample of the 1962 Southwest Indian high school graduates and found that only seven percent of them completed college.[4]

"There are many different tribes of Southwestern Indians, each with an attitude of its own about the importance of higher education."[5] Thus, the big question for the Indian student is, "Which college or university offers what I need, and will take enough interest in me and help me achieve my goals."

These facts obviate the appropriateness of this study. The study investigated factors related to the persistence of American-Indian students in two New Mexico Universities. The findings of the study should be of significant value to institutions of higher education

[4]Willard P. Bass, The American Indian High School Graduate in the Southwest (Albuquerque, New Mexico: Southwestern Cooperative Educational Laboratory, Inc., 1969), p.16.

[5]G. D. McGrath, et. al., Higher Education of Southwestern Indians with Reference to Success and Failure, (Tempe, Arizona: Arizona State University, 1962), p. 1.

seeking to better understand the unique problems of American-Indian students and to provide programs which will enable more of them to achieve success as college students.

This research focused upon this problem, attempting to determine factors related to persistence of American-Indian students in higher education by making a comparison between persisters and non-persisters.

Description of the Two Universities

The University of New Mexico and New Mexico State University were selected for the following reasons:

(1) The two universities are located in a state with a heavy concentration of the American-Indian population.

(2) Both institutions are attempting to strengthen their programs and more effectively program to deal with problems of American-Indians in higher education.

(3) The administration of both institutions expressed specific interest in the research and stated a willingness to cooperate in the gathering of the data essential to the study (see Appendix A).

The University of New Mexico was founded in 1889 by the Territorial Legislature, setting aside 20 acres for the campus. Today the campus occupies approximately 600 acres near the center of Albuquerque metropolitan area. The 1971 enrollment exceeded 19,000 students, of which 220 were American-Indians.

New Mexico State University was founded in 1888 as Las Cruces
Community College, becoming the state land grant college the following
year. It is situated in a semi-rural setting with a main campus of over
6,000 acres. Historically, the main emphasis on the campus has been
agriculture and engineering. The 1971 enrollment exceeded 9,000 stu-
dents, of which 120 were American-Indians.

Statement of the Problem

The American-Indian student poses an unquestioned challenge to
today's institutions of higher learning. The question remains, can
American higher education rise to meet this challenge? Will colleges
and universities provide programs and services which will better enable
the Indian students to succeed, to receive the educational preparation
which will make it possible for them to participate in the dominant
American culture and way of life, without at the same time sacrificing
their own identity? If so, the Indian student can achieve the goal
enunciated by Menninger in these words, "...find one's own identity, be
proud of what one is, be proud of the people one came from, and be proud
of one's past and one's future."[6]

Significance of the Study

The dropout rate among American-Indian students at the college
level is almost double that of the entire student population.[7] This,

[6]Karl Menninger, "Who Am I?" Journal of American-Indian Educa-
tion, 4:27-32, May, 1966. p. 31.

[7]Madison L. Coombs, The Educational Disadvantages of The Indian
American Student, (ERIC-CRESS, New Mexico State University, Las Cruces,
New Mexico, 1970), p. 36.

fact, coupled with the low matriculation rate, has resulted in proportionally fewer American-Indians completing college degree programs, thus failing to receive appropriate training to equip them to help themselves or their people. Edington and Willey alluded to the irony of the situation as they related:

> It is ironic that the people in the United States with the lowest standard of living are the original Americans. The American-Indian has the highest rate of unemployment, the lowest average education, the lowest annual income, the shortest expected life span, and the highest rate of infant mortality of any group of its size or larger in the nation. Some of the worst poverty areas to be found in the world are in our centers of Indian population.[8]

A ray of hope for the Indian student is the heightened interest certain institutions of higher education have shown in developing programs to make possible increased persistence of American-Indian students. In some instances, striking advances in Indian student persistence have resulted. Spang, until recently Director of American-Indian Studies at the University of Montana, informed this writer that the dropout rate there has decreased from 60 percent of those enrolled in 1969-70, to seven percent of those enrolled in 1970-71.[9] Indian student dropout rate at Brigham Young University has decreased in the past four years from 56 percent in 1966-67, to only ten percent during the 1970-71 academic year.[10]

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[8]Everett D. Edington and Darrell S. Willey, "Occupational Training for America's Forgotten Minority," Journal of American-Indian Education, 10:15, January, 1971.

[9]Personal interview with Mr. Alonzo Spang, June 21, 1971

[10]Personal interview with Mr. Royce Flandro, Director of Indian Studies at Brigham Young University, June 16, 1971.

Other institutions of higher education in the Southwest, such as the
University of Arizona[11] and Arizona State University,[12] are making pro-
gress in increasing Indian student persistence, though apparently not
as notable as the two mentioned above. The dropout rate of American-
Indian students enrolled at the University of New Mexico and New Mexico
State University for 1970-71 was 27 percent[13] and 4? percent,[14] respective-
ly.

It is important to the Indians of America, as well as to institu-
tions of higher education and to the nation as a whole, that colleges and
universities become more cognizant of the nature of the problems which
tend to limit the success of the Indian in higher education. Such infor-
mation, for the most part unavailable at present, should be particularly
beneficial to institutions attempting to provide effective programs designed
to increase the success of Indian students in higher education. Of
utmost importance to effective programming for these students is a clear
understanding of the factors which affect the persistence of Indian stu-
dents.

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[11]Personal interview with Mr. Gordon V. Krutz, Coordinator of
Indian Programs, University of Arizona, June 14, 1971.

[12]Personal interview with Dr. G. D. McGrath, College of Educa-
tion, Arizona State University, June 15, 1971.

[13]James G. Cooper, Robert Norris, and Donald A. McCabe, "Factors
Affecting Drop-Out Rates Among Native American College Students Enrolled
in the University of New Mexico, 1970-71,"(Unpublished research report,
University of New Mexico, Albuquerque, New Mexico, October 1, 1971).

[14]Registrar Records, New Mexico State University.

Objectives of the Study

The objectives of this research were as follows:

(1) To investigate the extent to which financial aids, sex, age, and marital status affected the persistence of American-Indian students included in the study population.

(2) To investigate the level of academic achievement of American-Indian students included in the study population and its effect upon their persistence.

(3) To investigate the effect of the major field of study selected by the American-Indian students included in the study population upon their persistence in college study.

(4) To investigate the extent to which tribal affiliation affected the persistence of the American-Indian students included in the study population.

(5) To investigate the extent to which the American-Indian students included in the study population utilized on-campus housing and its effect upon their persistence.

Hypothesis Tested

The following hypotheses, stated in null form, were tested:

Hypothesis One

There was no difference between the American-Indians included in the study population at New Mexico State University and the University of New Mexico with reference to the following factors:

sex, marital status, living on campus or off campus, having
an Indian or non-Indian roommate, being a member or non-member
of the campus Indian club, financial aid received, and gradua-
tion from a public or non-public high school.

Hypothesis Two

There was no difference between the American-Indians included
in the study population at New Mexico State University and the
University of New Mexico with reference to the following factors:
age, high school size, high school rank, ACT scores, college GPA,
average number of semester hours carried each semester, major
field of preparation, distance traveled from home to the univer-
sity, and tribal affiliation.

Hypothesis Three

There was no difference between the American-Indian college
persisters and non-persisters included in the study population at
New Mexico State University with reference to the factors listed
in Hypothesis One.

Hypothesis Four

There was no difference between the American-Indian college
persisters and non-persisters included in the study population at
New Mexico State University with reference to the factors listed
in Hypothesis Two.

Hypothesis Five

There was no difference between the American-Indian college
persisters and non-persisters included in the study population

at the University of New Mexico with reference to the factors
listed in Hypothesis One.

Hypothesis Six

There was no difference between American-Indian college
persisters and non-persisters included in the study population
at the University of New Mexico with reference to the factors
listed in Hypothesis Two.

Hypothesis Seven

There was no difference between the American-Indian college
non-persisters included in the study population at New Mexico
State University and the University of New Mexico with reference
to the factors listed in Hypothesis One.

Hypothesis Eight

There was no difference between the American-Indian college
non-persisters included in the study population at New Mexico
State University and the University of New Mexico with reference
to the factors listed in Hypothesis Two.

Hypothesis Nine

There was no difference between the American-Indian college
persisters included in the study population at New Mexico State
University and the University of New Mexico with reference to
the factors listed in Hypothesis One.

Hypothesis Ten

There was no difference between the American-Indian college
persisters included in the study population at New Mexico State

University and the University of New Mexico with reference to
the factors listed in Hypothesis Two.

Hypothesis Eleven

There was no difference between the non-Indians included in
the study population at New Mexico State University and the Uni-
versity of New Mexico with reference to the following factors:
sex, marital status, residence on-campus or off-campus, degree
of financial assistance received, and graduation from a public
or non-public school

Hypothesis Twelve

There was no difference between the non-Indians included in
the study population at New Mexico State University and the Uni-
versity of New Mexico with reference to the following factors:
age, high school size, high school rank, ACT scores, college GPA,
average number of semester hours carried each semester, major
field of preparation, and distance traveled from home to univer-
sity.

Hypothesis Thirteen

There was no difference between the non-Indian persisters and
non-persisters included in the study population at New Mexico
State University with reference to the factors listed in Hypothesis
Eleven.

Hypothesis Fourteen

There was no difference between the non-Indian persisters

and non-persisters included in the study population at New

Mexico State University with reference to the factors listed in

Hypothesis Eleven.

Hypothesis Fifteen

There was no difference between the non-Indian persisters

and non-persisters included in the study population at the

University of New Mexico with reference to the factors listed

in Hypothesis Eleven.

Hypothesis Sixteen

There was no difference between the non-Indian persisters

and non-persisters included in the study population at the

University of New Mexico with reference to the factors listed

in Hypothesis Twelve.

Hypothesis Seventeen

There was no difference between the Indians and non-Indians

included in the study population at New Mexico State University

and the University of New Mexico with reference to the factors

listed in Hypothesis Eleven.

Hypothesis Eighteen

There was no difference between the Indians and non-Indians

included in the study population at New Mexico State University

and the University of New Mexico with reference to the factors

listed in Hypothesis Twelve.

Hypothesis Nineteen

There was no difference between the Indian non-persisters and non-Indian non-persisters included in the study population at New Mexico State University and the University of New Mexico with reference to the factors listed in Hypothesis Eleven.

Hypothesis Twenty

There was no difference between the Indian non-persisters and non-Indian non-persisters included in the study population at New Mexico State University and the University of New Mexico with reference to the factors listed in Hypothesis Twelve.

Hypothesis Twenty-One

There was no difference between the Indian persisters and non-Indian persisters included in the study population at New Mexico State University and the University of New Mexico with reference to the factors listed in Hypothesis Eleven.

Hypothesis Twenty-Two

There was no difference between the Indian persisters and non-Indian persisters included in the study population at New Mexico State University and the University of New Mexico with reference to the factors listed in Hypothesis Twelve.

Definition of Terms

Ancillary Services. Those services provided students outside of the classroom including housing and financial aid services, designed to improve the quality of the educational experience for the student.

Dropout. In the study this term is used synonymously with the

term non-persister, as defined.

G.P.A. The grade point average earned by the student in his

college studies, with A=4, B=3, C=2, D=1, F=0.

Indian, American-Indian, and Native American. In the study these

terms are used synonymously and refer to those individuals who

identify themselves as American-Indians or were identified by

other Indians as such.

Non-Indian. This term refers to all individuals other than

those defined as American-Indian above.

Non-Persister. In this study the term non-persister was used

to designate a student who had withdrawn from the campus environ-

ment before satisfactorily completing the requirements for

graduation.

Non-Public Schools. This term refers to private, parochial,

or Federal Government schools.

Persistence Level. The degree to which a student continued in

college and advanced toward the completion of his degree program.

Persister. In this study the term persister was employed to

designate a student who has successfully completed a degree pro-

gram or was still working toward a degree at the time the data

was gathered.

Limitations of the Study

The investigation was generally concerned with those American-

Indian students enrolled at the University of New Mexico and at New Mexico

State University beginning with the Fall Semester, 1967, and up to and in-

cluding the Spring Semester, 1971. American-Indian graduate students were not included in this study. The group studied, therefore, was composed of a 30 percent random sample of the undergraduate American-Indian students at each of the two institutions and a random sample (approximately one percent) of non-Indian students at the University of New Mexico and non-Indian students at New Mexico State University during the period of time covered in the study. One factor, religion, considered by many to be important to the persistence of Native Americans in college was not included in the study because it was not available in the students permanent records at the institutions.

CHAPTER II

REVIEW OF THE LITERATURE

The three minorities receiving the focal interest in today's

higher education in America are Blacks, Mexican-Americans, and American-

Indians. Although the three minorities are quite diverse in culture and

environmental backgrounds, they are similar in that each has been classi-

fied as a minority. Of the three groups, studies related to Blacks are

most numerous in research studies in the field of higher education. The

available literature relating to Mexican-Americans and American-Indians

is considerably less. Very few studies have been conducted on these

groups so far as their experiences in higher education. To illustrate

this point, it may be noted that Guzman's 1967 Revised Bibliography lists

some 1,700 books, journal articles, dissertations and theses related to

the Mexican-American, with less than 250 having a publication date of

1960 or later. In the past decade, approximately 95 percent of the

literature deals with topics other than education, while the other five

percent primarily concerns elementary and secondary education. The few

studies investigating Mexican-Americans in higher education are mostly

contained in the ERIC collection.

The review of Black and Mexican-American literature, while con-

taining some general pertinent points, will not be exhaustive. It is

included, however, for general background purposes.

In a recent study on the effects of special counseling and tutor-

ing programs for Negro freshmen in regard to academic success, Wilson

found that of 89 Negro freshmen students included in the study, special

counseling programs provided were of no significant value.[1] The above

students, who comprised the 1969 entering class of Negros at Southern

State College, Magnolia, Arkansas were divided into two groups. One

group received special counseling and tutoring throughout the semester;

the control group received no special assistance. The results indica-

ted that there were no significant differences between the two groups in

terms of grade point average, value changes, or number of students in

the various categories. The research revealed also that the use of

different counselors did not appear to make any difference. There was

some evidence that Black freshmen responded better to Black counselors

than to either male or female white counselors. The study concluded by

suggesting that something was needed other than counseling and tutoring,

perhaps a curriculum devised specifically for this group, with special

academic advisement, which was absent in the study. It can be inferred

from the findings of this study that there can be some value in counsel-

ing these minority students, if the counseling is performed in the

correct way and at the proper time.

Hattenschwille found that for a counselor to be effective with

Black students he must establish a "unique" relationship with the stu-

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[1]Ralph Wilson. The Effects of Special Tutoring and Counseling
on the Academic Success of Negro Freshmen at Southern State College.
(Washington, D.C.: U.S. Government Printing Office, 1970).

dent at a critical moment through an outreach approach.[2] He stated that
the counselor may be called upon at strategic points in the college ex-
perience of these students, and at this point the counselor should be
ready to assist the students in resolving identity crises which they face.
White counselors, according to Hattenschwille, are not disqualified in
performing this function, but for them to be effective they may need to
modify their style of counseling. The results of Hattenschwille's re-
search would lead to the conclusion that for minority students to res-
pond positively to the college environment, the counselors and other staff
personnel should possess and express a genuine interest in these students
as persons.

Ledlacek, in studying admission policies at 107 colleges and
universities, made a random selection of Black students for his research.[3]
A major finding was that high school grade point average for Black males
was a very poor predictor of grade point achieved during the freshmen year
at college. He found that those Blacks who earned the highest grades re-
ported that the school and faculty genuinely cared about solving social
problems. In addition, it was found that the Blacks who remained in college,
in contrast to those who dropped out, were more realistic and saw more
racism at the school, but had stronger self-concepts, which appeared to
have been beneficial in helping them to handle the situation.

Black undergraduates at the University of Maryland who registered

[2]D. L. Hattenschwille, "Counseling Black College Students in
Special Programs." (ERIC Document, Ed 049 474) 1970.

[3]William E. Ledlacek, "Black Freshmen in Large Colleges: A Sur-
vey." The Personnel and Guidance Journal, 49 (4), December, 1970.
pp. 307-312.

for the Fall, 1969 term, but not for the Spring, 1970 term, were compared
with Blacks who registered for both terms on 29 demographic and attitu-
tional items by DiCesare.[4] Thirteen percent of the Blacks did not return
to school for the spring terms as compared with 15 percent of all under-
graduates. The results indicated that Blacks who returned to their studies
at the universities had more self-confidence and higher self-expectations.
They also held stronger convictions that the university had a responsibil-
ity to influence social conditions. The returnees were more likely to
live on campus and make greater use of its facilities than did the non-
returning Blacks.

From the above research on Blacks, it can be summarized that the
literature suggests that Blacks who stayed in college had a strong self-
concept and were characterized by a more realistic look at the universi-
ties they attended and adapted to them, and were thus better able to
achieve their own goal.

A search of the literature demonstrated that research on Mexican-.
Americans in higher education is considerably less than that on Blacks.
McNamara, of the University of Texas at El Paso, investigated Mexican-
American students enrolled in all of the introductory sociology classes
at that institution during the Fall term of 1969.[5] Information for the

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[4]Anthony C. DiCesare, et. al., Non-Intellectual Correlates of
Black Student Attrition. (ERIC Document Ed 049 414, 1970).

[5]Patrick H. McNamara. "Some Factors Associated With Differen-
tial Grade Performance of Mexican-American and Non-Mexican American
College Students." Paper presented at annual meeting of the Southwestern
Social Science Association, Dallas, Texas, March, 1970.

study was gathered by means of a specially constructed questionnaire. Students were asked to indicate their ethnic backgrounds on the instrument. Those listing Mexican-American or Spanish-American were selected for inclusion in his study population. This group was compared to those who listed Anglo-American as their ethnic background. The findings indicated that family background (socio-economic) factors characteristic of Mexican-American elementary and secondary students had little value in predicting success in college, specifically with respect to predicting grade point average of the student. He found that proportionately more males than females had less than a 2.0 (C) grade point average, but more females than males did not persist to completion of work for a degree. The reverse was found to be true for the Anglo-American students. McNamara concluded that if a set of ethnic-related factors exist which accounts for differences between the groups, it may be sought in socio-psychological relationships on family and peer levels.

Grebler, in a study of Mexican-American educational attainment, found a large gap between the Anglo and Spanish-surnamed groups.[6] The percent of Anglo population having some college (one or more years) was 22.1 for the age group 14 and above, as compared with only 5.6 of the Mexican-American population in the Southwest. Even the non-whites (defined as all except Spanish-surnamed and Anglo-Americans) who had some college accounted for 11.7 percent of this group. Worthy of note is the difference in educational attainment (some college) by sex of Mexican-Americans. The propor-

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[6] Leo Grebler, The Schooling Gap: Signs of Progress. (Los Angeles University of California at Los Angeles, 1967).

tion of male Mexican-Americans who attended college was 60.89 percent, with 64.64 percent of those who completed four or more years also being male. This is especially noteworthy when it is observed that the median years of school completed is greater for the Mexican-American female, 8.2 years, as compared to 8.1 years for males in the 14 years-and-above age group. Grebler made no attempt to identify the causes behind the low educational attainment of Mexican-Americans, as the majority of his data was obtained from the 1960 U. S. Census. He did make a comparison with the 1950 census figures and found an upward trend in the educational level of Mexican-Americans.

As is evident from the preceeding, the research studies probing issues relevant to Blacks and Mexican-Americans in higher education help to point the direction for needed inquiry into the needs of Native-Americans by focusing on some of the problems associated with membership in a minority culture. The literature relating to these minority groups point up the need for more study more specifically, for research on American-Indians in higher education.

Studies focusing upon American-Indians in higher education are small in number and characteristically limited in scope. A few studies give some insight into the problems of this segment of society. Although Indian dropouts and Indian studies programs are favorite topics of educators today, most of the verbage in current literature on these topics is little more than opinion. The literature is repleat with articles and books of opinions about the Indian and higher education. Numerous studies have examined Indian students in elementary and secondary schools, yet there is a scarity of research relating to American-Indians in higher

education in the current literature.

Havighurst, reviewing literature relating to the cultural and intellectual background of the education of American-Indians, found the contemporary Indian to be a person of two cultures.

> ...We see that these young people learn one kind of attitude toward rules of games that they see in the white culture...and they learn a different kind of attitude toward such rules that are part of (their) culture. Truly they are growing up to be people of two cultures, subject to two contrasting kinds of education; and they must make their own combination or synthesis of the two cultures and the two kinds of education.[7]

Havighurst's observations led him to the following deductions. Most Indians fall somewhere between being acculturated in white American society and having no contact with white people. Competition is the major factor in the "white" culture, whereas cooperation is the basic attitude of the Indians mentioned. They appear to demonstrate few signs of competing in schools, when judged by the standards of the dominant culture.

Discussing the intelligence of Indian students, Havighurst provides the following insight:

> Indian students can be divided into two groups...
> The earlier group of studies tended to show that
> Indians were less intelligent than white children.
> The later group tended to show that there was no
> difference in average intelligence between Indian
> and white children, except for such differences as
> were explainable on the basis of cultural differences.[8]

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[7]Robert J. Havighurst, "Education Among American Indians: Individual and Cultural Aspects," The Annals of the American Academy of Political and Social Science, 311: 105-15, May, 1957.

[8]Ibid., p. 110.

The conclusion was drawn that most Indian groups tended to cling to enough traditional culture to prevent them from adopting fully the white American culture.[9]

In 1942 Rohrer tested 235 Osage Indians in Oklahoma and found that the Osage group was socially, educationally, and economically on a par with the average white population of the United States.[10]

Most authorities disagree with the approach which suggests that the Indian should be pushed into the mainstream of the American culture and be forced to give up his own culture. In the words of Bryde, "it appears debatable whether the Indian should be pushed into the mainstream of American society, admitted by most social scientists to be the most neurotic society in the history of mankind."[11]

Bryde studied the Oglala Souix in South Dakota, attempting to determine the cause and extent of what he termed "the crossover phenomenon" among Indian students. His investigation of the achievement records of 164 Indian students revealed that from the fourth grade through the sixth grade, their test performance exceeded the national norms. However, at the seventh grade level, the Indian students suddenly "crossed over" and fell two months behind the norms, and at the eighth grade level they lagged behind five months.[12] No significant difference was found between the sexes

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[9]Ibid., p. 114.

[10]J. H. Rohrer,"The Test Intelligence of Osage Indians," Journal of Social Psychology, 16:99-105, 1942.

[11]John F. Bryde, "New Approach to Indian Education," Unpublished paper, Holy Rosary Mission, Pine Ridge, South Dakota, 1967, p. 3 ff.

[12]Ibid., p. 6.

or in their degree of Indian "blood." Culture seemed to be the main fac-

tor in that case. Bryde concluded that psychological conflict during

adolescence had caused problems which blocked the educational achieve-

ment of the Indian students investigated, and the problem was not

alleviated by providing them more of the "white man's" education.

Artichocker and Palmer found many of the same problems among

Indians noted by other investigators. In their study of the Sioux Indian

college students of South Dakota in 1957, the one general and overriding

discovery was that the Indian students had more problems that were trouble-

some and serious than did non-Indian students.[13] Among the special pro-

blems faced by the Indian student revealed by the study, the following

appeared to have been of greatest significance:

(1) Poor academic training for college, especially in the

   areas of mathematics and science, but also in social

   studies and English;

(2) insufficient funds, especially for clothing and "spend-

   ing money";

(3) inability to relate himself to the future, particularly

   as this involved his educational and vocational objectives;

(4) concern about his moral and religious questions, and

(5) concern about family members.[14]

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[13]John Artichocker, Jr. and Neil M. Palmer, The Sioux Indian
Goes to College, (Vermillion, South Dakota: University of South Dakota,
1959).

[14]Ibid., p. 33.

In his study of Indian college students in South Dakota, covering

the years 1925-1958, Ludeman found that approximately one-third of the

Indian students surveyed attended college for one quarter term or less, and

that less than one-half the total number persisted for one full school year

(three-quarters) or less.[15] He further observed that the average scholas-

tic performance of those whose college experience was short-lived was poor.

This information led him to conclude that the Indian students' inferior

academic achievements probably accounted, in major part, for their brief

college attendance.

The most comprehensive study in the literature which investigated

the problems of Indians pursuing education beyond high school was carried

out by McGrath and associates in 1962.[16] The study surveyed 52 colleges

and universities in Arizona, Colorado, New Mexico, and Utah, seeking infor-

mation about the programs offered, the number of Indian student dropouts,

and factors contributing to Indian student dropout. McGrath's investigation

identified a total of 15 courses being offered in these institutions in

which the word "Indian" was included in the title, 12 of which were offered

at one institution. Only nine of these colleges and universities provided

special guidance and counseling services for Indian students at the time

of the study, and only four institutions provided tutoring service for them.

The following question was addressed to these institutions in an

[15]W. W. Ludeman, "The Indian Student in College", Journal of Educational Sociology, 33: 333-335, March, 1960.

[16]G. D. McGrath, et. al., Higher Education of Southwestern Indians With Reference to Success and Failure. (Tempe, Arizona: Arizona State University, 1962).

attempt to discern the degree of their committment to programs for Indians.
"What special programs for Indian students should a college or university
have?"[17] Among the responses provided was the following, which McGrath
quotes in his report:

> It is my firm belief that the Indian student prefers
> to be accepted and assimilated into the student body
> of the college. The average student does not wish to
> be isolated but does wish to learn new ways, new study
> habits and new knowledge. Therefore, it is certainly
> unwise to provide separate programs of study for the
> Indian students. It is essential that all Indian stu-
> dents be given the opportunity to study side by side
> with the other students in college.[18]

Ironic, however, is the fact that this conclusion was incongruous
with the general attitude of most of the respondents. Most institutions
were aware of the special needs of Indian students and were seeking ways
and means to improve existing programs and to initiate new ones. Neverthe-
less, McGrath found that less than ten percent of the 52 institutions sur-
veyed made a practice of identifying Indian students in college records.[19]
The majority of institutions relied on the campus Indian organizations for
their information; only ten of the 52 Southwestern institutions of higher
learning surveyed had active Indian clubs on campus.[20]

At that time, a decade ago, only four of the institutions surveyed
had special orientation programs for Indian students, and only nine of them

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[17]Ibid., p. 97.

[18]Ibid., p. 97.

[19]Ibid., p. 104.

[20]Ibid., p. 104.

provided special counseling and guidance. At the other institutions
counseling was performed by the regular counseling service on the campus.
Four of the institutions provided tutoring services for Indian students.
Regarding steps being taken at that time to program for Indian students
according to specific needs, the researchers deduced:

> Southwestern institutions of higher learning react
> differently to the problem of meeting specific needs
> of Indian groups and Indians in college. Some insti-
> tutions provide no service or program to Indians be-
> yond these provided for all individuals or groups.[21]

In concurrence with the findings of Ludeman, McGrath discovered
that the Indian student college dropout rate was consistently high. Un-
like Ludeman, however, McGrath was not amenable to attributing this high
dropout rate to poor scholastic ability on the part of the Indian student.
Upon examining the causes for the high dropout rate of Indians from 1958 to
1962, McGrath discerned that 48 percent of the Indian students withdrew
from college because of financial reasons. Financial difficulties also
appeared to be a major factor affecting the low matriculation of Indians.
Tribal leaders of 37 Southwestern tribes were interviewed and many res-
ponded by indicating that it was their opinion that a greater number of
Indians would attend college when more financial assistance programs were
provided.[22]

McGrath further observed that inadequate high school preparation
and lack of family and tribal concern and encouragement were given as

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[21]Ibid., p. 107.

[22]Ibid., p. 107.

reasons for leaving college by 38 percent of the Indian dropouts. Follow-
ing these items on the list of factors resulting in dropout were cultural
differences, then academic difficulties, which were reported as the cause
of dropout by only 17 percent of Indian dropout respondents. McGrath con-
cluded that low scholastic ability on the part of the Indian student was
not the primary cause of their departure from their college studies.
Language handicap and lack of counseling concluded the listing of signifi-
cant reasons given for Indian students leaving college. McGrath reported
that few tribal leaders thought that the high dropout rate was the fault
of the Indian student. They were apparently in basic agreement with
McGrath on this point, rather than Ludeman,[23] who concluded that academic
difficulty was the primary reason for lack of persistence on the part of
the Indian students.

In his perusal of official records of Indian students in the
institutions studied, McGrath discovered that 68 percent of the withdraw-
als were voluntary, the other 32 percent of those leaving college were
dismissed. Sixty percent of all the Indian students leaving were either
on probation or in danger of being placed on probation at the time of
their departure. He surmised that lack of interest, not ability, was a
"contributing factor" to the high dropout rate, and that some of those
who left voluntarily may have done so to avoid being asked to leave.[24]

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[23]Ludeman, op cit.

[24]Ibid., p. 217.

The findings revealed that the dropout, as compared with the persister, was more likely to have spent all of his elementary school years in a reservation school.

The more salient findings resulting from McGrath's investigation are enumerated below:

(1) Considering all sources of scholarship aid, 1,696 scholarships were granted to American-Indian students at the institutions surveyed, totaling $1,184,289 between 1958-61, or an average of $698.00 per student.

(2) The Indian student was found to be more dependent on scholarship aid than the non-Indian, 81 percent of them having received such assistance in the institutions surveyed during 1958-61.

(3) Indian clubs appeared to fulfill an important role in the lives of the Indian students in these institutions.

(4) Few of the institutions included in the study offered special programs (curricula, counseling, tutoring) for Indian students, although they were located in areas where there was a concentration of Indian population and had Indian students enrolled at their institutions.

(5) Eighty-nine tribes (37 in the Southwest) were represented during 1958-61 at the 52 institutions surveyed.

(6) Half of the Indian students in college were freshmen; 64 percent of them enrolled for 15 or more semester hours per semester.

(7) The mean number of hours of outside preparation by American-Indian students was found to be 16 to 20 hours per week, with seven or more hours per week spent studying in the library.

(8)   Thirty-two percent of the Indians still in school at the time of the study had been on academic probation.

(9)   Full-blooded Indians were found to be somewhat less successful in college than those with mixed blood.

(10)   Single students were found to be more likely to have a lower grade point average than married students.

(11)   The age of the Indian student was found to be an important and determinative factor in persistence. The older the student, the more likely, it was found, that he would persist.

(12)   College grade point average and rank in high school class were found to be only slightly related.

(13)   Seventy-three percent of the tribal leaders surveyed in the project identified education as a crucial current problem facing Indians.

(14)   Eighty-seven percent of the tribal leaders surveyed in the study were dissatisfied with the limited number of Indians who attended college.

Bass conducted a study of Indian high school graduates in the Southwest to determine the percentage that continued their education beyond high school.[25] He attempted to collect names of all 1962 Indian high school graduates in Arizona, Nevada, New Mexico, Oklahoma, Southern Colorado, and Southern Utah, some six years after graduation. A random sample of 40 percent (647) of those identified were selected as the study population.

[25]Willard P. Bass, The American Indian High School Graduate In The Southwest. (Albuquerque, New Mexico: Southwestern Cooperative Educational Laboratory, Inc., 1969).

Of this group, 384 or 60 percent were interviewed.

Bass discovered that 74 percent of the sample continued on to post high school training, with 69 percent of these completing some type of higher training. Of the Indians who continued beyond high school, a total of 44 percent completed a vocational-technical program and seven percent obtained a college degree. Noteworthy here is the fact that 80 percent of the public school graduates continued their education, whereas only 66 percent of the Federal and private school Indian graduates sought an education beyond high school.

> In comparing the figures for Arizona, New Mexico and
> Oklahoma, the percentages that stand out from the
> others are those for Oklahoma college entries and com-
> pletions. Of the 95 Oklahoma high school graduates,
> 44 percent entered college and 18 percent completed
> college. Of those who enrolled in college, 40 percent
> graduated. The rate of entry into college is twice
> that for New Mexico and more than twice that of Ari-
> zona. The rate of completion is more than four times
> that of New Mexico and six times that of Arizona.[26]

Bass found that 50 percent of the sample were married before entering post-secondary education. Of the total sample, 79 percent of the females and 87 percent of the males indicated that marriage had not affected their educational plans. He found that marriage and pregnancy were the causes for 25 percent of the females to discontinue their education, whereas, inadequate finances accounted for the largest percentage of dropouts among the males.

In concluding his report, Bass noted that except for Oklahoma resi-

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[26]Ibid., p. 42.

dents, only a small percentage of the Indian high school graduates attend college. However, it was the high college attrition rate discovered that was most disturbing to him. He indicated a belief that the language handicap was the almost universal problem which tended to defeat the Indian college student in the Southwest.[27]

At a U.S.O.E. sponsored Summer Institute in July, 1971, at the Navajo Community College, Many Farms, Arizona, participants representing colleges and universities throughout the Southwest presented papers and discussed different programs and proposals designed to benefit the Indian student. One of the most glaring weaknesses in today's higher education as it relates to the American-Indian was defined as inadequate financial aid programs.

One final study of note was recently concluded by Cooper and associates at the University of New Mexico.[28] The purpose of this study was to investigate factors affecting Native-American dropouts and to suggest steps to be taken to intervene, where possible. The study identified 187 Indians, of which 111 participated in the study. Cooper found that by providing special help in counseling, tutoring, registration, and some financial assistance, the dropout rate was reduced 13 percent over what it had been in previous years. The combined GPA was raised from 1.99 in 1969-70, to 2.37 in 1970-71, the year the study was conducted.

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[27]Ibid., p. 71

[28]James G. Cooper, Robert Norris and Donald A. McCabe, "Factors Affecting Drop-Out Rates Among Native American College Students Enrolled in the University of New Mexico, 1970-71." (Unpublished research report, University of New Mexico, Albuquerque, New Mexico, October 1, 1971).

Three specific recommendations were made:

(1) Registration week should include specific staff

knowledgeable of both programs and of Native-

Americans.

(2) A counseling tutoring service should be provided.

(3) A special compensatory work in English should be

provided.[29]

In the literature a dominant theme is that most institutions are
failing to provide for the particular wants and needs of the Indian. The
following points constitute a summary of the observations which tend to
recur in the literature:

(1) Sufficient funds have not been available to American-

Indian students who wish to attend college.

(2) Colleges and universities have not provided adequate

enrichment programs to enable Indian students to over-

come academic deficiencies.

(3) Few colleges and universities have offered sufficient

counseling, advising, and tutoring programs to meet

the special needs of Indian students.

(4) Sufficiently motivated, typical Indian students seem

to have possessed the innate intelligence to success-

fully persist and succeed academically in the college

atmosphere, if they had been properly guided and

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[29]Ibid., p. 4.

assisted in the process.

(5) Indian clubs have apparently been vital to the Indian college student and it has been suggested that insti- tutions should take steps to start or improve such groups within the campus environment.

(6) The findings tend to show that colleges need to be aware of and sympathetic to the cultural differences encountered by the Indian when plunged into a new and dominant society and experience in the college environ- ment.

CHAPTER III

DESIGN AND PROCEDURE

It is the purpose of this chapter to outline and discuss the
research design and procedure utilized in the study. The design and
procedures were devised so that certain factors could be analyzed to
determine their effect upon the persistence of American-Indian stu-
dents at the University of New Mexico and New Mexico State University.

Basic Design

Answers to the following questions were sought in achieving the
purposes of the study.

(1) What were the characteristics of American-Indian per-

sisters and non-persisters with respect to:

A. Sex,

B. Age,

C. Marital Status?

(2) How did the level of academic achievement of persisting

American-Indians compare with non-persisting American-

Indian students at the University of New Mexico and at

New Mexico State University?

(3) What difference was there, if any, between the major

field of study selected by American-Indian students who

persisted and those who did not?

(4) What difference existed, if any, in the extent of the

usage of campus housing by American-Indian students

who persisted and those who did not persist in their

college study?

In addition, the same questions were asked of the non-Indian

students. Comparisons were made to determine what differences existed

between the American-Indian students and non-Indian students regarding

selected variables associated with college persistence.

The Study Population

The investigation was concerned with those American-Indian and

non-Indian students who had been enrolled at the University of New Mexico

and at New Mexico State University, beginning with the Fall Semester,

1967, and up to and including the Spring Semester, 1971.

A random sample of 30 percent of American-Indian students enrolled

at each of the two institutions for the years to be covered, along with

a random sample of 200 non-Indians at the University of New Mexico and

100 non-Indians at New Mexico State University, constituted the study

population.

A basic difficulty existed in identifying all of the Indian stu-

dents included in the study population. There existed no formal listing

by the two institutions of students by ethnic groupings. In order to

secure the names of American-Indian students, three sources were utilized:

(1) The records of the Indian club on each campus contained many of the

names of Indian students enrolled during each of the years studied; (2)

selected Indian students agreed to review a complete list of students

enrolled for the years covered in the study and identify the names of

known Indian students; (3) a list of students who received Bureau of Indian Affairs educational funding was also utilized. In addition, the cooperation of the Directors of Native-American Studies programs at the two institutions was enlisted in identifying Indian students. With this approach, it was estimated that 95 percent of the students of Indian descent were identified.

Procedure for Data Collection

Data about the students in this study were collected during the period of the research. The information was gathered by direct examination of the school records of the students included in the study population and was recorded on a data gathering sheet designed specifically for that purpose (see Appendix B).

In employing this method, the investigator collected data about and analyzed the following factors:

    (1) Tribal affiliation,

    (2) High school size,

    (3) High school rank,

    (4) Type of high school attended,

    (5) Distance college was from student's home,

    (6) Student's sex,

    (7) Student's age,

    (8) Marital status of student,

    (9) Financial assistance received,

  (10) ACT score,

  (11) Major field of study,

  (12) Course Load,

(13) On-campus or off-campus residence.

Items termed "factors related to persistence" (see Appendix B) were identified in the review of literature, through personal interviews with American-Indian college students, and in interviews with directors of Indian Studies Programs (see Appendix C). A partial listing of those with whom the interviews were held is included as Appendix C.

Statistical Treatment of the Data

The data collected were coded and punched on IBM cards so that computing facilities could be utilized for statistical analysis. Computation was done on the New Mexico State University IBM 360/65 computer. The program used was a Biomedical Computer Program-BMDO7M-Step-wise Discriminant Analysis written by the Health Science Computing Facility, UCLA, revised July 24, 1969.

Each independent variable contained in the hypothesis was examined in the step-wise discriminant analysis for the purpose of analyzing how it affected the persistence of American-Indian students, and was tested for significance at the 0.05 level.

Nature of the Study

From this explanation of the methods and procedures used in this study, it may be observed that the central concern of the research was the effect selected factors had on the persistence of American-Indian students. All inferences drawn from this study were products of this data and re-lated to them. The primary aim of the research was to analyze the effect of these factors upon the persistence of American-Indians in college. It is envisioned that the findings of the research will provide the parti-

cipating universities in the study, as well as other institutions of higher education enrolling American-Indian students, information for more effectively programming to meet the distinctive needs of American-Indian students in higher education.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

In this study, which covered the period beginning with the Fall

Semester 1967, and ending with the Spring Semester 1971, a total of 449

Indian students at the University of New Mexico and 227 Indian students

at New Mexico State University were identified. A random sample of 30

percent of those Indian students identified at each institution were

selected for the study: 135 at the University of New Mexico and 68 at

New Mexico State University. For comparison a random sample of 200 non-

Indians at the University of New Mexico and 100 non-Indians at New

Mexico State University were selected.

Statistical tests were performed by means of a step-wise discri-

minant (classification) analysis technique. This technique also produces

means, standard deviations, and for each factor or variable a measure of

its initial importance for classification. In the classification analysis

procedure the program converts these measures to F values and selects the

most significant for inclusion. At each step, F values are computed for

each factor included, as well as for those factors not yet included. Each

included factor is checked to see if it maintains importance as a classi-

fier. In conjunction with this, new F values are computed for each factor

which has not yet entered to measure its importance relative to the set of

entered factors. Finally, with reference to the entered factors at each

step, group equality is tested. The above operations are repeated until

all variables have been entered. After all factors have been entered by

the discriminant analysis procedure, group equality is tested for signifi-
cance at the .05 level by means of the F distribution. This test is
equivalent to a Hotelling's T^2 and serves as the test of each stated
hypothesis.

Investigation of the step-wise process for each hypothesis reveal-
ed that, generally, all factors are not needed for classification purposes.
Important classification factors were ascertained on the basis of F
values above 2.00 (for inclusion) and F values below 1.00 (for deletion).
In the tables that follow a dotted line separates the factors according
to this criterion with those factors below the dotted line being relative-
ly unimportant as classifiers.

In the tables that follow the relative importance is shown for
each variable for classification, the step at which it was included in the
process, F value at entry, and the overall F value.[1]

Comparison of Indian Students at New Mexico State University and the
University of New Mexico.

Hypothesis One stated that there was no difference between the
American-Indian students attending the University of New Mexico and those
attending New Mexico State University with reference to sex, marital
status, place of residence, Indian or non-Indian roommate, financial
aids, and type of high school.[2] When all factors were included in the
step-wise procedure an overall F of 5.56 was obtained, significant at the

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[1]The latter F value tests group equality at that step.

[2]Formal statement of hypotheses found in Chapter 1.

.05 level (critical F with 7 & 195 d.f.=2.06). The null hypothesis was rejected.

The most important factor for classification was place of residence while attending college (Table I). It was found that 44 percent of the Indian students lived off campus while attending the University of New Mexico as compared with only eight percent of the New Mexico State University Indian students residding off campus (see Appendix D). The second most important classifier was sex of the student. At New Mexico State University, just under one-third of the Indian students were female, while slightly over one-half were females at the University of New Mexico.

The remaining factors, financial aid received, marital status, Indian club membership, Indian roommate, and type of high school attended, were relatively unimportant as classifiers.

Hypothesis Two stated that there was no difference between the Indian students at the University of New Mexico and the Indian students at New Mexico State University in regard to the 18 factors listed. In the final classification, 18 variables were included with an overall F value of 34.96 which is significant at the .05 level (critical F with 18 & 148 d.f.=1.68). The null hypothesis was rejected.

There were seven important classifiers, with the most important being distance student must travel from home to college (Table II).

The mean distance the New Mexico State University Indian student had to travel from home to campus was 326 miles, compared with only 117 miles for the University of New Mexico Indian student (see Appendix D).

The second most important classifier was tribal affiliation. The Pueblo
Indians at the University of New Mexico accounted for 52.5 percent of the
Indian students, whereas, slightly over 48 percent of the Indian students,
at New Mexico State University were Pueblo. High school rank was import-
ant in classifying the two groups, with the University of New Mexico
Indian students' mean being 2.00, where 3.00 would be the top third of
their high school graduating class.

Agriculture and professional preparation, in that order, were next
on the list of importance. Agriculture, which included all phases of the
field, was chosen as the major field of study by more than one-third of
the New Mexico State University Indian students, but less than four per-
cent of the University of New Mexico students. Likewise, a major within
the professional field of study was selected by almost 50 percent of the
New Mexico State University Indian students, while only 38 percent of the
University of New Mexico Indian students chose a major in a professional
field.

High school size and math scores on the ACT were the last import-
ant variables to enter the classification process with an F value of
2.00 or greater. The average size of the graduating class for those
Indians attending the University of New Mexico was 264, compared to 169
for those Indians attending New Mexico State University. The mean ACT
math score for New Mexico State University Indian students was 15.38,
whereas, the University of New Mexico Indian students had a mean ACT
math score of 16.82.

The remaining 11 factors contributed relatively little to the

overall classification of the two groups of Indian students in the

study population at the two institutions.

TABLE I

ANALYSIS RESULTS: Comparison of Indian students at New Mexico State
University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Residence	29.72	
2	Sex	6.20	
3	Financial Aids	1.87	
4	Marital Status	0.73	
5	Indian Club Membership	0.06	
6	Roommate (Indian)	0.02	
7	Type of High School	0.002	5.56**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

Comparison of Indian persisters and non-persisters at New Mexico State
University.

The null hypothesis stated that there was no difference between
Indian persisters and non-persisters at New Mexico State University with
reference to the seven factors listed in Hypothesis One. When all factors
were included in the step-wise procedure an F value of 1.12 was obtained
(critical F with 7 & 60 d.f.=2.17). The difference between these two
groups was not significant at the .05 level; therefore, the null hypothe-
sis was not rejected.

It can be noted, that 62 percent of the persisters were members
of the campus Indian club, while only approximately 44 percent of the
non-persisters were members. Also, among the persisters, 41 percent
were female, but only 23.5 percent of the non-persisters were female
(see Appendix D).

Table III shows the lack of significance of these factors for
classifying persisting and non-persisting Indian students at New Mexico
State University.

Hypothesis Four stated that there was no difference between
American-Indian persisters and non-persisters at New Mexico State
University with reference to the factors listed in Hypothesis Two.
Technology as a field of study was not chosen by any of the Indian stu-
dents in the study population at New Mexico State University. For this
reason it was omitted as a classifier in this instance. The remaining
17 factors entered the classification process and produced an F value
of 4.71, which was significant at the .05 level (critical F with 17 &
50 d.f.=1.85). The null hypothesis was rejected.

The three most important factors for classifying persisting and non-persisting Indian students at New Mexico State University were: college grade point average, sex, and rank in high school, in that order (Table IV). The college GPA for persisting Indian students was 2.39, compared with a college grade point average of 1.21 for the non-persisters. Although the mean age of the persisters was less than the non-persisters (see Appendix D), it was the second most important classifier, when combined with the GPA. It entered the classification process in step two with an F value of 2.78. Combined with the GPA and age, high school rank became the next most important classifier to enter the process.

In this test 14 of the factors were of little importance for classifying the two groups. These factors consisted of all areas of the ACT scores, major fields of study, tribal affiliation, high school size and distance which the student travels from home to the campus.

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TABLE III

ANALYSIS RESULTS: Comparison of Indian persisters and non-persisters at New Mexico State University.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Sex	2.43	
2	Indian Club Membership	2.38	
	----------------------*		
3	Place of Residence	1.11	
4	Marital Status	1.71	
5	Type of High School	0.40	
6	Roommate (Indian)	0.04	
7	Financial Aid	0.002	1.12**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Not significant at .05 level

TABLE IV

ANALYSIS RESULTS: Comparison of Indian persisters and non-persisters at New Mexico State University.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	College GPA	53.49	
2	Age	7.78	
3	High School Rank	4.54	
4	Major (Liberal Arts)	0.99	
5	Tribe (Navajo)	0.75	
6	Tribe (Pueblo)	5.42	
7	ACT (English)	1.07	
8	ACT (Natural Science)	0.99	
9	ACT (Math)	1.13	
10	High School Size	0.40	
11	ACT (Composite)	0.40	
12	Semester Course Load	0.27	
13	ACT (Social Science)	0.31	
14	Distance (From Home)	0.19	
15	Major (Professional)	0.17	
16	Major (Agriculture)	0.07	
17	Major (Science)	0.21	4.71**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Significant at .05 level

Comparison of Indian persisters and non-persisters at the University of
of New Mexico.

Hypothesis Five stated that there was no difference between per-
sisting and non-persisting Indian students at the University of New

Mexico with reference to the seven factors listed in Hypothesis One. All

seven factors were included in the process, but the overall F value was

only 1.60, which was not significant at the .05 level (critical F with

7 & 127 d.f.=2.08). Therefore, the null hypothesis was not rejected.

The most important difference between the two groups was the type

of high school attended (Table V). Thirty-three percent of the non-per-

sisters attended non-public high schools, whereas, only 16.6 percent of.

the persisters had graduated from a non-public high school (see Appendix

D). One other factor of note, although slight, was having an Indian or

non-Indian roommate. Among the persisters almost 37 percent had an

Indian roommate, but less than 22 percent of the non-persisters lived

with another Indian while attending the University of New Mexico.

The five remaining factors were entered with an F value less than

2.00; therefore, are of very little importance for classification pur-

poses. These factors were: sex, marital status, place of residence,

Indian club membership, and financial aid received.

Hypothesis Six stated that there was no difference between the

Indian persisters and non-persisters at the University of New Mexico on

the 18-factor category. With the 18 factors included in the classifica-

tion procedure, an F value of 5.89 was obtained, which is significant at

the .05 level (critical F with 18 & 116 d.f.=1.69). Therefore, the null

hypothesis was rejected.

College grade point average was the most important for classify-
ing these two groups (Table VI). Persisters had a mean college GPA of
2.39, while the non-persisters maintained a mean of only 1.33. The ACT
social science score followed GPA in importance as a classifier of the
groups. The persisters averaged almost 2 points above the non-persisters
with 18.83 and 16.85 respectively. Scores on the math section of the ACT
was the third best classifier, where the persisters had a mean score of
3.31 higher than that of the non-persisters (see Appendix D).

Technology, as a field of study, assumed the fourth most important
position for classifying the Indian students at the University of New Mexi-
co into groups of persisters and non-persisters. Almost three times as
many of the non-persisters chose technology for their major field of
preparation as did their peers who persisted.

The fifth and final factor to enter the classification process,
with a 2.00 or greater F value, was high school size. The mean size of
the graduating class of the non-persisting Indian students at the Univer-
sity of New Mexico was 229, while the persisters graduated with a class
whose mean size was 300.

These five factors have the greatest power for classifying the
American-Indian students at the University of New Mexico as to persisters
and non-persisters.

Table VI depicts the relative importance of each factor. It will
be noted that the ACT scores for English and natural science, respectively,
had relatively low F values. It will be noted also that a total of 13
factors were below the 2.00 F value needed for consideration as important
classifiers.

TABLE VI

ANALYSIS RESULTS: Comparison of Indian persisters and non-persisters at the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	College GPA	72.11	
2	ACT (Social Science)	6.62	
3	ACT (Math)	8.98	
4	Major (Technology)	3.53	
5	High School Size	2.50	
6	Age	1.23	
7	Distance (From Home)	1.25	
8	Major (Science)	0.59	
9	ACT (Composite)	0.29	
10	Tribe (Pueblo)	0.26	
11	Tribe (Navajo)	0.82	
12	Semester Course Load	0.17	
13	Major (Liberal Arts)	0.04	
14	Major (Agriculture)	0.07	
15	Major (Professional)	0.35	
16	High School Rank	0.06	
17	ACT (English)	0.04	
18	ACT (Natural Science)	0.03	5.89**

* The dotted line separates the important classifiers from the unimportant classifiers

** Significant at .05 level

Comparison of Indian non-persisters at New Mexico State University and the
University of New Mexico.

Hypothesis Seven stated that there was no difference between the

Indian non-persisters at the University of New Mexico and at New Mexico

State University with reference to the seven factors of sex, marital

status, place of residence while attending college, Indian or non-Indian

roommate, financial assistance, and type of high school attended. With

all seven factors included in the classification process, an F value of

4.33 was obtained, which is significant at the .05 level (critical F with

7 & 95 d.f.=2.11). The null hypothesis was rejected.

Two of the factors were found to be very important in classifying

the non-persisters as to which university they attended (Table VII). The

most important factor in this instance was place of residence while attend-

ing college. At the University of New Mexico, 44.9 percent of the Indian

non-persisters resided off campus, whereas, only 5.8 percent of the New

Mexico State University non-persisting Indians lived off campus (see

Appendix D). Sex of the student was the other important classifier. The

New Mexico State University non-persisting Indian students consisted of

only 23.5 percent female, but 47.8 percent of the University of New Mexico

non-persisters were female. The remaining five factors, Indian roommate,

marital status, financial aid received, type of high school attended, and

Indian club membership contributed relatively little to the overall

classification process.

Hypothesis Eight stated that there was no difference between the

Indian non-persisters from the University of New Mexico and from New

Mexico State University, with reference to the 18 factors listed in Hypo-

thesis Two. An F value of 30.50 was obtained, indicating a significant difference at the .05 level (critical F with 17 & 85 d.f.=1.74). The null hypothesis was rejected.

The distance a student traveled, from home to college was the most important classifier, as in Hypothesis Two (Table VIII). Those Indian students at the University of New Mexico who did not persist had a mea. distance of 114 miles to travel, while the New Mexico State University non-persisting Indians had a mean travel distance of 325 miles (see Appendix D). With this factor (distance) included in the classification process, then the tribal affiliation factor, Navajo, becomes the next most important classifier. At step three, high school rank became very important in classification of the two groups. The non-persisting Indians from the University of New Mexico had a mean rank of 2.31 as compared with a 1.64 mean rank for the non-persisting Indians from New Mexico State University. Tribal affiliation, Pueblo, became the fourth most important factor in classifying these two groups.

With the above four factors entered into the step-wise procedure, high school size became an important contributor in the classification of the institution they were more likely to attend. The mean size of the graduating class of those Indian non-persisters from the University of New Mexico was 229, while those from New Mexico State University was much smaller at 159. The next three factors to enter the step-wise procedure were: science as a major field of study, course load, and the natural science score, in that order.

Science as a major field of study was selected by 5.8 percent of the non-persisters of the University of New Mexico, while none of the non-

persisters at New Mexico State University chose this field as their major.
The non-persisters at New Mexico State University carried a mean course
load of 14.6 semester hours each semester, but the University of New Mexico
non-persisting Indians had a mean course load of only 11.9 semester hours
per semester. The mean difference between the non-persisters at the
University of New Mexico and New Mexico State University on the ACT natural
science score was 2.46, with the Indians at the University of New Mexico
having the higher score (see Appendix D).

In this test eight of the factors were the major contributors, while
ten factors were of little or no value in classifying the two groups. Four
of the areas within the major field of study, ACT composite, math, social
science, and English scores, age, and GPA, were the unimportant classifiers
of these two groups.

TABLE VII

ANALYSIS RESULTS: Comparison of Indian non-persisters at New Mexico
State University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Place of Residence	18.50	
2	Sex	8.17	
3	Roommate (Indian)	1.09	
4	Marital Status	1.22	
5	Financial Aid	0.53	
6	Type of High School	0.05	
7	Indian Club Membership	0.05	4.33**

*   The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

TABLE VIII

ANALYSIS RESULTS: Comparison of Indian non-persisters at New Mexico State
University and the University of New Mexico.

Classification	Factor Entered	F Value To Enter	Overall F Value
1	Distance (From Home)	270.84	
2	Tribal (Navajo)	26.74	
3	High School Rank	17.69	
4	Tribal (Pueblo)	11.48	
5	High School Size	5.75	
6	Major (Science)	3.52	
7	Semester Course Load	2.60	
8	ACT (Natural Science)	2.04	
9	ACT (Social Science)	1.58	
10	Major (Agriculture)	1.54	
11	Major (Technology)	0.98	
12	Age	0.72	
13	ACT (Math)	0.12	
14	College GPA	0.11	
15	ACT (English)	0.08	
16	Major (Liberal Arts)	0.10	
17	Major (Professional)	0.04	
18	ACT (Composite)	0.03	30.50**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

Comparison of Indian persisters at New Mexico State University and the University of New Mexico.

Hypothesis Nine stated that there was no difference between Indian persisters at the University of New Mexico and at New Mexico State University on the seven factors of Hypothesis One. When all seven factors had entered into the step-wise procedure, the F value was only 2.09, a value not significant at the .05 level (critical F with 7 & 92 d.f.=2.11). Therefore, the null hypothesis was not rejected.

In this test, only one factor was entered in the classification process with an F value of 2.00 or greater, place of residence while attending college (Table IX). At the University of New Mexico slightly under 44 percent of the Indian persisters resided in off campus housing; only 11. percent of the New Mexico State University Indian students did not live in university housing. The remaining factors did not classify with any reliability.

Hypothesis Ten stated that there was no difference between the Indian persisters at the University of New Mexico and at New Mexico State University with regard to the 18 factors listed in Hypothesis Two. All factors were entered in the step-wise procedure producing an F value of 15.45, which was significant at the .05 level (critical F with 18 & 81 d.f.=1.73). The null hypothesis was rejected.

Seven of the 18 factors were considered important as classifiers and entered the classification process with an F value of 2.00 or greater (Table X). As in other tests, distance which the student traveled from home to the college was the most important factor for classifying the two groups. The University of New Mexico persisting Indian students had a

mean travel distance of 120 miles, while the New Mexico State University
Indian persisters traveled a mean distance of 327 miles from home.
Tribal affiliation, factors two (Pueblo) and three (Navajo) were second
and third in importance as classifiers.

Two areas within the major field of study were important classi-
fiers in steps four and five. Agriculture as a field of study was the
fourth most important factor, where just over 26 percent of the New
Mexico State University Indian persisters chose this field as a major,
while only 3.0 percent of their peers at the University of New Mexico
selected agriculture as a major. A larger percentage (58.8 percent) of
the New Mexico State University Indian students chose professional study
than their counterparts at the University of New Mexico (48 percent).

High school size and high school rank, in that order, were the
sixth and seventh most important classifiers of the Indian persisters at
the University of New Mexico and at New Mexico State University. There
was a large difference between the means of the high school size of the
two groups. The University of New Mexico Indian persisters graduated from
high schools with a mean class size of 300, whereas, the New Mexico State
University persisters' high school graduating class size mean was 178
(see Appendix D). The high school rank was important in classifying the
Indian persisters. Indian students at the University of New Mexico had
a slightly higher mean high school rank than their counterparts at New
Mexico State University, 2.45 and 2.35, respectively.

The remaining 11 factors were relatively unimportant for classify-
ing the two groups.

TABLE IX

ANALYSIS RESULTS: Comparison of Indian persisters at New Mexico State
University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Place of Residence	11.5	
2	Roommate (Indian)	0.87	
3	Sex	0.82	
4	Financial Aid	0.86	
5	Type of High School	0.47	
6	Marital Status	0.32	
7	Indian Club Membership	0.13	2.09**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Not significant at .05 level

TABLE X

ANALYSIS RESULTS: Comparison of Indian persisters at New Mexico State
University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Distance (From Home)	129.74	
2	Tribal (Pueblo)	31.48	
3	Tribal (Navajo)	7.91	
4	Major (Agriculture)	6.68	
5	Major (Professional)	4.03	
6	High School Size	2.64	
7	High School Rank	2.05	
8	Major (Science)	1.84	
9	Semester Course Load	1.23	
10	ACT (Math Score)	1.03	
11	ACT (Natural Science)	1.68	
12	GPA	0.86	
13	ACT (Composite)	1.37	
14	Age	0.87	
15	Major (Liberal Arts)	0.66	
16	Major (Technology)	0.25	
17	ACT (Social Science)	0.42	
18	ACT (English)	0.51	15.45**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

Comparison of non-Indians at New Me.:ico State University and the
University of New Mexico.

Hypothesis Eleven stated that there was no difference between the

non-Indian students at the University of New Mexico and at New Mexico

State University with reference to sex, marital status, on-campus or off-

campus residence, financial assistance received, and graduation from a

public or non-public school. With all factors entered in the step-wise

procedure, an F value of 5.84 was obtained, a value significant at the

.05 level (critical F with 5 & 294 d.f.=2.40). The null hypothesis was

rejected.

There was a significant difference between the non-Indian sample

at the two institutions, with two of the factors, place of residence and

type of high school attended, being the most important classifiers

(Table XI).

The study showed that almost twice the percentage of the Univer-

sity of New Mexico non-Indian students lived off campus as did the New

Mexico State University non-Indian stud...ts 62 percent and 33 percent,

respectively. Likewise, proportionally more than twice as many of the

University of New Mexico students in the study attended non-public

schools as did the non-Indian New Mexico State University students (see

Appendix D). The factors of sex, marital status, and financial aid

received were relatively unimportant.

Hypothesis Twelve stated that there was no difference between the

non-Indians at the University of New Mexico and the non-Indians at New

Mexico State University on 16 factors as listed in the hypothesis. With

all factors entered in the classification an F value of 8.65 was obtained.

This value was significant at the .05 level (critical F with 16 & 283 d.f.=1.68). The null hypothesis was rejected.

In this test, six of the 16 factors were important as classifiers (Table XII). When classifying the non-Indian students with regard to the university attended, the most important classifier was major field of study. In fact, three of the six most important factors were in that category. Agriculture and its allied fields were the greatest distinguishing features between non-Indian students at the two institutions. There were only 0.5 percent of the University of New Mexico students selecting any phase of agriculture as their major field of study, however, at New Mexico State University over 20 percent of the sample chose agriculture as a field of preparation. Following agriculture in importance as a classifier was professional field of study.

The New Mexico State University non-Indian students chose to enroll for professional training at a much higher percentage rate than their counterparts at the University of New Mexico by the margin of five to three (see Appendix D).

Step number three selected high school size as the third most important classifier, with the non-Indian students at the University of New Mexico coming from larger schools. The mean class size of high school for them was 417, whereas, the New Mexico State University non-Indian students attended high schools with a mean class of 302. The fourth most important factor to classify these two grups was in the category of the major field of study. This factor was science as a major, and again, the students of New Mexico State University chose this field of preparation

more often than those at the University of New Mexico.

Average course load per semester was the next most important classifier of the two groups. There was only a slight difference between the means of the two groups, 13.33 and 13.08 semester hours per semester, with the University of New Mexico students taking the heavier load. The final factor to be included in the step-wise procedure, with an F value of 2.00 or greater, was distance from the student's home to the campus. It will be noted that this factor ranked at or near the top in importance for the Indian students. The difference between the mean travel distance for the University of New Mexico and New Mexico State University students was 114 miles with the University of New Mexico students traveling 362 miles and the New Mexico State University students traveling 476 miles.

Here, two areas of the major field of study, all of the ACT test scores, age, high school rank, and college GPA were relatively unimportant as classifiers of these two groups.

TABLE XI

ANALYSIS RESULTS: Comparison of non-Indian students at New Mexico State
University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Place of Residence	24.13	
2	Type of High School	3.92	
3	Marital Status	1.06	
4	Sex	0.02	
5	Financial Aid	0.006	5.84**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

TABLE XII

ANALYSIS RESULTS: Comparison of non-Indian students at New Mexico State
University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Major (Agriculture)	50.58	
2	Major (Professional)	30.72	
3	High School Size	10.40	
4	Major (Science)	7.60	
5	Semester Course Load	6.54	
6	Distance (From Home)	5.03	
7	Major (Liberal Arts)	1.82	
8	Major (Technology)	3.75	
9	Age	1.82	
10	ACT (Social Science)	1.66	
11	ACT (English)	1.49	
12	ACT (Natural Science)	0.18	
13	ACT (Composite)	0.38	
14	ACT (Math)	0.78	
15	High School Rank	0.02	
16	GPA	0.02	8.65**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

Comparison of non-Indian persisters and non-persisters at New Mexico
State University.

Hypothesis Thirteen stated that there was no difference between
the non-Indian New Mexico State University persisters and non-persisters
with regard to the factors of sex, marital status, on-campus or off-campus,
financial aid received, and type of high school attended. The analysis
revealed an F value of 0.68, which was below the value needed for signifi-
cance at the .05 level (critical F with 5 & 94 d.f.=2.31). The null
hypothesis was not rejected.

There was only one factor which entered the step-wise procedure
with an F value of 2.00. Table XIII below will show that marital status
entered with an F value of 2.68, while the remaining four factors entered
with an F value of less than 1.00.

Hypothesis Fourteen stated that there was no difference between
persisting and non-persisting New Mexico State University non-Indian
students with reference to the factors of Hypothesis Twelve. When all
factors had been entered in the step-wise procedure, an F value of 3.40
was obtained, which was significant at the .05 level (critical F with
16 & 83 d.f.=1.77). The null hypothesis was rejected.

Eight factors entered the analysis procedure with an F value of
2.00 or greater (Table XIV). Of these eight factors, grade point average
was the most important classifier. The persisting non-Indian students at
New Mexico State University maintained a mean GPA of 2.44, while the
non-persisters had a mean 1.93 GPA. Course load was the second most
important factor for classification. The non-persisters maintained a
lighter course load than their persisting peers. Non-persisters had a

mean course load of 11.3 semester hours, whereas the persisters mean course load was 14.0 semester hours.

Science as a major field of study was chosen by 18.9 percent and technological preparation by 2.7 percent of the non-persisters, as compared with only 6.3 percent and 0.0 percent, respectively, for the persisters (see Appendix D). These two factors were third and fourth most important in the classification process.

Following in order of importance were: age, high school rank, agriculture as a major, and ACT natural science scores. The non-persisters were, on the average, almost one year older than the persisting non-Indian New Mexico State University students. High school rank was the sixth most important classifier, entering the step-wise procedure with an F value of 3.62. Here, again, major field of study became important as a classifier. The study of agriculture was chosen by 24.3 percent of the non-persisters, but only slightly more than 20 percent of the persisters chose this field of study. The score for the natural science section of the ACT was the final factor to be entered with an F value of 2.00 or greater. The mean scores for the natural science were 21.92 and 21.13 for persisters and non-persisters, respectively. It appeared that there was very little difference between the means of the two scores, but it was relatively important as a classifier when combined with the first seven factors included. The remaining nine factors, which were: ACT Composite, math and social science scores, two areas within the major field of study, distance of travel, and high school size were negligible as classifiers of these two groups.

TABLE XIII

ANALYSIS RESULTS: Comparison of non-Indian persisters and non-persisters at New Mexico State University

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Marital Status	2.68	
2	Type of High School	0.38	
3	Place of Residence	0.26	
4	Sex	0.16	
5	Financial Aid	0.02	0.68**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Not significant at .05 level

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TABLE XIV

ANALYSIS RESULTS: Comparison of non-Indian persisters and non-persisters at New Mexico State University.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	College GPA	15.87	
2	Semester Course Load	6.29	
3	Major (Science)	6.52	
4	Major (Technology)	4.53	
5	Age	2.86	
6	High School Rank	3.62	
7	Major (Agriculture)	3.60	
8	ACT (Natural Science)	2.51	
9	ACT (Social Science)	0.77	
10	Distance (From Home)	0.35	
11	Major (Liberal Arts)	0.41	
12	Major (Professional)	0.31	
13	ACT (Math)	0.22	
14	ACT (Composite)	0.85	
15	ACT (English)	1.04	
16	High School Size	0.01	3.40**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Significant at .05 level

Comparison of non-Indian persisters and non-persisters at the University
of New Mexico.

Hypothesis Fifteen stated that there was no difference between the

non-persisters and the persisters at the University of New Mexico among

the non-Indian students on the five factors as listed in Hypotheses Eleven.

The F value (0.52) after all factors were entered in the step-wise pro-

cedure was not significant at the .05 level (critical F with 5 & 194 d.f.=

2.26). Therefore, the null hypothesis was not rejected.

It was noteworthy that, although none of the factors were signifi-

cant for classification, more than two times as many of the persisters

attended non-public high schools than did the non-persisters (see Appendix

D).

An analysis of Table XV below shows the lack of classification

power of the five factors.

Hypothesis Sixteen stated that there was no difference between

non-Indian persisters and non-persisters at the University of New Mexico

on the factors listed in Hypothesis Twelve. The hypothesis was tested

for significance at the .05 level, and with all variables included in

the step-wise procedure, an F value of 7.19 was obtained. This F value

was significant at the .05 level (critical F with 16 & 183 d.f.-1.70).

Therefore, the null hypothesis was rejected.

Four of the 16 factors entered the classification process with an

F value of 2.00 or greater (Table XVI). These factors and their order of

importance were: Grade point average, ACT social science score, high

school rank, and age. The non-Indian persisters at the University of New

Mexico had a mean GPA of 2.67, whereas, the non-persisters had a 1.74

mean GPA.

The ACT social science score ranked second in importance for classification of these two groups. Although there were small differences between the means of the two groups on this score (see Appendix D), it became significant when combined with the GPA. High school rank was the third most important factor for classifying persisters and non-persisters among the non-Indian students at the University of New Mexico. Like the factor above, difference between the means of the groups appeared small, but it was large enough to be considered as the third most important classifier when entered in the step-wise procedure.

The final factor to be entered with an F value of 2.00 or greater was age of the student. The average age for the non-persisters when first enrolling at the University of New Mexico was 19 years, five months, and for the persisters it was 18 years, 11 months, or a difference of six months. Age, then, was the fourth most important factor for classifying the non-Indian students at the University of New Mexico into the categories of persisters and non-persisters.

The 12 remaining factors, high school size, four areas of the ACT score, all of the major fields of study, semester course load, and distance contribute relatively little for classification purposes of these two groups.

TABLE XV

ANALYSIS RESULTS: Comparison of non-Indian persis ⌐rs and non-persisters
at the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Type of High School	2.33	
2	Sex	0.24	
3	Place of Residence	0.06	
4	Financial Aids	0.001	
5	Marital Status	2.10	0.52**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Not significant at .05 level

TABLE XVI

ANALYSIS RESULTS: Comparison of non-Indian persisters and non-persisters at the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	College GPA	79.86	
2	ACT (Social Science)	9.40	
3	High School Rank	3.59	
4	Age	5.17	
5	High School Size	1.79	
6	ACT (Math)	1.85	
7	ACT (English)	1.25	
8	ACT (Composite)	1.48	
9	Major (Agriculture)	1.60	
10	Distance (From Home)	1.43	
11	Major (Technology)	0.90	
12	Major (Science)	0.25	
13	ACT (Natural Science)	0.12	
14	Major (Professional)	0.09	
15	Major (Liberal Arts)	0.03	
16	Semester Course Load	0.32	7.19**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Significant at .05 level

Comparison of Indian and non-Indian students at New Mexico State University and the University of New Mexico.

Hypothesis Seventeen stated that there was no difference between the Indian and non-Indian students in the study population at the two universities with regard to the factors of Hypothesis Eleven. The five factors were included in the step-wise procedure and produced an F value of 44.54, significant at the .05 level (critical F with 5 & 497 d.f.= 2.23). The null hypothesis was rejected.

The step-wise procedure entered all of the factors with an F value of 2.00 or greater, except one. The factor that had an F value less than 2.00 was marital status of the student (Table XVII).

The most important factor for classification was the amount of financial aid received, with almost 70 percent of the Indians being recipients of fiscal assistance, but less than 17 percent of the non-Indians received financial help. Twenty-four percent of the Indians and 11 percent of the non-Indians attended non-public high schools, a factor second in importance as a classifier.

The factor that ranked third in importance for classification was place of residence while attending college. More than 52 percent of the non-Indians, but less than 33 percent of the Indians, lived off campus while enrolled at the University of New Mexico or at New Mexico State University. The final factor in this set was sex of the student. There was a larger percentage (45.3) of females among the students of Indian descent than among the non-Indian students (36.3). Only marital status was of little consequence among this set of factors for these two particular groups.

Hypothesis Eighteen stated that there was no difference between the Indian students and non-Indian students of the study population with reference to the factors listed in Hypothesis Twelve. After all the factors were entered in the step-wise procedure an F value of 16.15 was obtained, which is significant at the .05 level (critical F with 16 & 486 d.f.=1.68). The null hypothesis was rejected.

Eight of the factors entered in the step-wise procedure with an F value of 2.00 or greater (Table XVIII). The ACT English score was the most important factor as a classifier of Indians and non-Indians at the two institutions. The mean English score for the non-Indians was 20.08, whereas, the Indian's score was considerably less; 16.28 (see Appendix D). Following as second in importance was high school size. The non-Indian students were high school graduates from secondary school with a senior class average of 378, while the Indian students had graduated from high schools whose mean senior class size was only 232.

The third most important factor was distance which the student traveled from his home to the university he attended. The mean distance of travel for non-Indians was 400 miles, but the Indians traveled only 187 miles. The fourth factor selected into the classification process was high school rank, with the Indian having a slightly higher rank, The mean class rank for the Indian and non-Indian students were 2.26 and 2.20, respectively.

The four remaining factors of importance were ACT math score, GPA, semester course load, and agriculture as a major field of study, in that order. The mean math score for the non-Indian student was 20.54 and for

the Indian student 16.34. Like the math score, there was a relatively large difference between the mean GPA's. The Indian students had a mean GPA of 1.84, while the non-Indian's mean GPA was 2.31. The seventh factor to enter the step-wise procedure was semester course load. The difference between the means were small (see Appendix D); however, when used in conjunction with the above six factors, it was relatively important as a classifier.

It can be noted in Table XVIII that agriculture as a major field of study became an important classifier at step 14, entering the step-wise procedure with an F value of 15.11. Until this step, its importance was negligible as a classifier. The ACT social and natural science scores, age, and major fields of study were relatively unimportant. ACT composite scores were no value as classifers of these two groups.

TABLE XVII

ANALYSIS RESULTS: Comparison of Indian and non-Indian students at New
Mexico State University and the University of New
Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Financial Aid	181.43	
2	Type of High School	14.34	
3	Place of Residence	11.90	
4	Sex	4.14	
---*			
5	Marital Status	0.54	44.54**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

TABLE XVIII

ANALYSIS RESULTS: Comparison of Indian and non-Indian students at New Mexico State University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	ACT (English)	83.92	
2	High School Size	37.58	
3	Distance (From Home)	27.71	
4	High School Rank	17.75	
5	ACT (Math)	9.68	
6	College GPA	5.88	
7	Semester Course Load	4.66	
8	ACT (Social Science)	1.88	
9	Age	1.80	
10	Major (Science)	1.03	
11	Major (Technology)	1.14	
12	Major (Liberal Arts)	0.62	
13	Major (Professional)	1.01	
14	Major (Agriculture)	15.11	
15	ACT (Natural Science)	1.35	16.15**

* The dotted line separates the important classifiers from the unimportant classifiers.
** Significant at .05 level

Comparison of Indian and non-Indian non-persisters at the New Mexico
State University and University of New Mexico.

Hypothesis Nineteen stated that there was no difference between

the non-persisting Indians and non-persisting non-Indians at the Univer-

sity of New Mexico and at New Mexico State University with regard to the

factors of Hypothesis Eleven. The five factors were included in the step-

wise procedure with an overall F value of 19.17, significant at the .05

level (critical F with 5 & 286 d.f.=2.45). The null hypothesis was re-

jected. Three of the five factors entered in the classification process

with an F value of 2.00 or greater (Table XIX).

The most important classifier for these groups was financial

assistance, with just over 66 percent of the Indian non-persisters at the

two institutions being supplemented financially, while less than 18 per-

cent of the non-Indians received fiscal help (see Appendix D). Among

the Indian non-persisters, over 30 percent had graudated from a non-public

high school, but only 8.1 percent of the non-Indians did not graduate from

a public high school. This was the second most important factor for

classifying these two groups. Place of residence while attending college

was important as a classifier of the non-persisting Indians, and non-persisting

non-Indians at the University of New Mexico and at New Mexico State Univer-

sity. Among the non-Indian non-persisters, almost 56 percent lived off of

the campus, whereas, less than one-third of the non-persisting Indians resided

outside the campus environment. The remaining two factors, marital status

and sex of the student, entered the classification with a very low F value;

therefore, they were of little value as classifiers.

Hypothesis Twenty stated there would be no difference between the
Indian non-persisters and non-Indian non-persisters of the study popula-
tion with reference to the 16 factors listed in Hypothesis Twelve. The
step-wise procedure produced an overall F of 11.58 which was significant
at the .05 level (critical F with 15 & 198, d.f.=1.72). The null hypothe-
sis was rejected.

Nine factors entered in the classification process with an F value
of 2.00 or greater. An analysis of Table XX revealed that technology as
a major field of study was relatively unimportant as a classifier, until
step 14.

It was noteworthy that the five most important factors for classi-
fying these two groups parallel those of Hypothesis Eighteen, i.e., English
scores, high school size, distance of travel, high school rank, and math
scores, in that order. Social science scores were the sixth most import-
ant classifier, followed by grade point average and then semester course
load. There was a wide difference between the means of the non-Indian and
Indian students on their English scores, 19.64 and 14.57 respectively (see
Appendix D).

Similar to Hypothesis Eighteen, the difference in mean size of
high school was quite large between the Indian and non-Indian non-persis-
ters at both institutions. The Indian non-persisting students were gradu-
ated from a high school with a senior class mean size of 206, while the
non-Indian non-persisting students had graduated from a high school with

a mean class size of 395. Distance, as the third factor of importance, was relatively the same as when tested in Hypothesis Eighteen, with the Indians traveling the shorter distance.

The factor, high school rank, held its position of importance; however, here the non-Indian non-persisters had a slightly larger mean high school rank than the Indian non-persisters. The ACT scores for math and social science were in the fifth and sixth position of importance, with the non-Indian non-persisting students in the study averaging 5.19 points higher on the math section and 3.68 points higher on the social science section of the ACT than the Indian non-persisters (see Appendix D). Grade point average was higher for the non-Indian than the Indian with a mean GPA of 1.81 and 1.30, respectively. The Indian non-persisting students had a larger mean course load each semester than the non-Indian non-persisters.

Age, major fields of study, and the ACT natural science scores did not contribute greatly to the classification of the two groups. Here, as in Hypothesis Eighteen, the ACT composite score was of no value as a classifier.

TABLE XIX

ANALYSIS RESULTS: Comparison of Indian and non-Indian non-persisters at
New Mexico State University and the University of New
Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Financial Aids	69.71	
2	Type of High School	13.71	
3	Place of Residence	6.61	
4	Marital Status	0.14	
5	Sex of Student	0.03	19.17**

* The dotted line separates the important classifiers from
the unimportant classifiers.
** Significant at .05 level

TABLE XX

ANALYSIS RESULTS: Comparison of Indian and non-Indian non-persisters at
New Mexico State University and the University of New
Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	ACT (English)	64.40	
2	High School Size	23.93	
3	Distance (From Home)	10.00	
4	High School Rank	8.93	
5	ACT (Math)	7.73	
6	ACT (Social Science)	3.39	
7	College GPA	4.14	
8	Semester Course Load	2.34	
9	Age	1.28	
10	Major (Science)	0.79	
11	Major (Agriculture)	0.52	
12	Major (Liberal Arts)	0.41	
13	Major (Agriculture)	1.66	
14	Major (Technology)	11.69	
15	ACT (Natural Science)	0.95	11.58**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

Comparison of Indian and non-Indian persisters at New Mexico State
University and the University of New Mexico.

Hypothesis Twenty-One stated that there was no difference between

the non-Indian and Indian persisters included in the study with reference

to the factors of Hypothesis Eleven. With all factors included in the

step-wise procedure, an F value of 25.76 was obtained, which was signi-

ficant at the .05 level (critical F with 5 & 283 d.f.=2.25). The null

hypothesis was rejected.

Four of the five factors entered the procedure with an F value of

2.00 or greater, indicating they were important classifiers for these

two groups (Table XXI). The most important factor was financial assist-

ance. Seventy percent of the Indian student persisters at the University

of New Mexico and New Mexico State University received financial help

whereas, less than 16 percent of the non-Indians had monetary aid. Place

of residence while attending college was the second most important con-

tributor in the classification process. Only one-third of the Indian

persisters resided in non-university housing.

Sex and type of high school attended were the third and fourth

ranked classifiers. It is noteworthy that 51 percent of the persisting

Indian students in the study were female, but only 35 percent of the non-

Indian persisters were females. Percentage-wise, more persisters than

non-persisters attended a non-public high school (see Appendix D). The

only factor of relatively little importance was marital status which

entered the classification process with an F value of only 0.55.

Hypothesis Twenty-Two stated that there was no difference between

the American-Indian and the non-Indian persisting students included in
the study with reference to the 16 factors in Hypothesis Twelve. With
all factors included in the step-wise procedure an F value of 4.88 was
obtained, which was significant at the .05 level (critical F with 15 & 262
d.f.=1.69). The null hypothesis was rejected.

The five factors of greatest importance were: ACT composite,
high school rank, high school size, distance from home to college campus,
and ACT English score, in that order (Table XXII).

The Indian students average almost three points lower on the ACT
composite and English scores than the non-Indians (see Appendix D), but
their high school rank was higher, 2.42 and 2.24, respectively. As in
all the other tests, the Indian students graduated from a high school
with a mean class size much smaller than the non-Indians. For the
Indians and non-Indians, respectively, the high school graduating class
mean was 278 and 369. Distance, also, was important as a classifier,
with the Indian students traveling a much shorter average distance than
the non-Indians. The mean distance of travel for the Indian was 190
miles and for the non-Indian 417 miles (see Appendix D).

College grade point average, semester course load, age, the major
fields of study, and the ACT composite, natural and social science scores
were relatively unimportant as classifiers.

If one were to identify the best combination of factors related
to the persistence of American-Indian college students, they would have
to be: a student who was less than 19 years of age when enrolled, a
graduate from a larger, public high school who ranked in the upper third

of the graduating class. In addition, the student would score 17 or above

on the ACT test, chose a major field of study within the professional

field, and be female. This is postulated on the basis of their appear-

ance in the majority of the tests as the "best" combination of classi-

fiers.

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TABLE XXI

ANALYSIS RESULTS: Comparison of Indian and non-Indian persisters at New Mexico State University and the University of New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	Financial Aids	109.46	
2	Place of Residence	5.69	
3	Sex	5.49	
4	Type of High School	3.23	
5	Marital Status	0.55	25.76**

* The dotted line separates the important classifiers from the unimportant classifiers.

** Significant at .05 level

TABLE XXII

ANALYSIS RESULTS: Comparison of Indian and non-Indian persisters at
New Mexico State University and the University of
New Mexico.

Classification Step	Factor Entered	F Value To Enter	Overall F Value
1	ACT (Composite)	23.05	
2	High School Rank	19.60	
3	High School Size	.7.93	
4	Distance (From Home)	9.78	
5	ACT (English)	3.58	
6	College GPA	1.87	
7	Semester Course Load	1.02	
8	ACT (Social Science)	0.76	
9	Age	0.42	
10	ACT (Natural Science)	0.34	
11	Major (Liberal Arts)	0.29	
12	Major (Technology)	0.37	
13	Major (Science)	0.57	
14	Major (Professional)	0.20	
15	Major (Agriculture)	3.92	
16	ACT (Math)	0.16	4.88**

* The dotted line separates the important classifiers from
the unimportant classifiers.

** Significant at .05 level

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine if there was a statistically significant difference in selected factors between American-Indian students who persisted at the University of New Mexico and at New Mexico State University and those who did not persist. The basic approach to the research of this problem was to collect information from the permanent student records at the two institutions for each of the groups of subjects included in the study.

The subjects were 135 Indians and 200 non-Indians at the University of New Mexico and 68 Indians and 100 non-Indians at New Mexico State University. The Indian subjects represented a 30 percent random sample of identified undergraduate Indian students enrolled at each of the two institutions during the academic years from 1967 through 1970. A random selection of the non-Indian students was made from the student directories at the University of New Mexico and at New Mexico State University for the same time period.

To achieve the basic purposes of this study, 22 hypotheses were formulated. The results were presented in tabular and narrative form in Chapter IV. A step-wise discriminant analysis was used to determine any significance of difference.

A summary of the findings associated with the factors that aid classification among American-Indian persisters and non-persisters and a comparison with non-Indian students is presented below.

> Hypothesis One. There was no difference between the
> American-Indians included in the study population at
> New Mexico State University and those at the Univer-
> sity of New Mexico with reference to the following
> factors: sex, marital status, living on campus or
> off campus, having an Indian or non-Indian roommate,
> member or non-member of the campus Indian club,
> financial aids received, and graduating from a public
> or non-public high school.

The null hypothesis was rejected at the .05 significance level.

In the step-wise classification process place of residence while
attending college and sex of the student were identified as the "best"
combination of factors for the purpose of classifying the American-Indian
students as attending the University of New Mexico or New Mexico State Uni-
versity. The remaining five factors had little classification power
(Table I).

> Hypothesis Two. There was no difference between the
> American-Indians included in the study population at
> New Mexico State University and those at the Univer-
> sity of New Mexico with reference to the following
> factors: age, high school size, high school rank,
> ACT scores, college GPA, average number of semester
> hours carried each semester, major field of prepara-
> tion, distance traveled from home to university, and
> tribal affiliation.

The null hypothesis was rejected at the .05 significance level.

In the step-wise classification process the factors of distance,
tribal affiliation, high school rank, two categories in the major field of
study, high school size, and the ACT math score were identified as the
"best" combination for the purpose of classifying these two groups (Table
II).

> Hypothesis Three. There was no difference between the
> American-Indian college persisters and non-persisters
> included in the study population at New Mexico State
> University with reference to the factors listed in
> Hypothesis One.

The null hypothesis was not rejected at the .05 significance level.

There were no significant differences between the two groups on any of the

seven factors at the .05 level (Table III).

> Hypothesis Four. There was no difference between the
> American-Indian college persister and non-persister
> included in the study population at New Mexico State
> University with reference to the factors listed in
> Hypothesis Two.

The null hypothesis was rejected at the .05 significance level.

The step-wise classification process identified three factors as important

for classifying the Indian students at New Mexico State University into

groups of persisters and non-persisters. The factors were GPA, age, and

high school rank (Table IX).

> Hypothesis Five. There was no difference between Ameri-
> can-Indian college persisters and non-persisters included
> in the study population at the University of New Mexico
> with reference to the factors listed in Hypothesis One.

The null hypothesis was not rejected at the .05 significance level.

Two of the seven factors, in and of themselves, were identified as capable

of providing some classification between the two groups (Table V).

> Hypothesis Six. There was no difference between the Ameri-
> can-Indian college persisters and non-persisters included
> in the study population at the University of New Mexico
> with reference to the factors listed in Hypothesis Two.

The null hypothesis was rejected at the .05 significance level.
The step-wise classification process revealed that GPA, ACT social science
scores, ACT math scores, major field of study (technology), and high
school size provided the "best" combination of factors for classifying
the University of New Mexico Indians into groups of persisters and non-
persisters (Table VI).

> Hypothesis Seven. There was no difference between the
> American-Indian college non-persister at New Mexico
> State University and those at the University of New
> Mexico with reference to the factors listed in Hypothe-
> sis One.

The null hypothesis was rejected at the .05 significance level.
There were two factors of importance for classification identified by the
step-wise process, place of residence while attending college and sex of
the student (Table VII).

> Hypothesis Eight. There was no difference between the
> American-Indian college non-persister included in the
> study population at New Mexico State University and
> those at the University of New Mexico with reference
> to the factors listed in Hypothesis Two.

The null hypothesis was rejected at the .05 significance level.
The step-wise procedure revealed the following factors as important for
classification of the two groups: distance, tribal affiliation, high
school rank, high school size, major field of study, semester course load,
and the ACT natural science scores (Table VIII).

Hypothesis Nine. There was no difference between the
American-Indian college persisters included in the
study population at New Mexico State University and
those at the University of New Mexico with reference
to the factors listed in Hypothesis One.

The null hypothesis was not rejected at the .05 significance level.

Only one of the factors in and of itself was important as a classifier

(Table IX). The factor was place of residence while attending college.

Hypothesis Ten. There was no difference between the
American-Indian college persisters included in the
study population at New Mexico State University and
those at the University of New Mexico with reference
to the factors listed in Hypothesis Two.

The null hypothesis was rejected at the .05 significance level.

The step-wise procedure revealed that distance, tri'al affiliations, the

major field of study, high school size, and high school rank was the "best"

combination for the purpose of classifying the American-Indian as to which

institution he attended (Table X).

Hypothesis Eleven. There was no difference between
non-Indians included in the study population at New
Mexico State University and those at the University
of New Mexico with reference to the following fact-
ors: sex, marital status, residing on campus or
off campus, having graduated from a public or non-
public high school.

The null hypothesis was rejected at the .05 significance level.

The step-wise classification process revealed two factors, place of resi-

dence while attending college, and type of high school attended as the

"best" combination for the purpose of classifying these groups (Table XI).

Hypothesis Twelve. There was no difference between
non-Indians included in the study population at New
Mexico State University and those at the University
of New Mexico with reference to the following fact-
ors: age, high school size, high school rank, ACT
scores, college GPA, average semester hours, major
field of preparation, and distance which the stu-
dents travel from home to the university.

The null hypothesis was rejected at the .05 significance level.

The factors, major field of preparation (three areas), high school size,

semester course load, and distance (Table XII), were revealed by the

step-wise classification process as the most important classifiers of

these two groups.

Hypothesis Thirteen. There was no difference between
non-Indian college persisters and non-persisters in-
cluded in the study population at New Mexico State
University with reference to the factors listed in
Hypothesis Eleven.

The null hypothesis was not rejected at the .05 significance level.

There were no significant differences between the two groups on any of the

five factors at the .05 level (Table XIII).

Hypothesis Fourteen. There was no difference between
non-Indian college persisters and non-persisters in-
cluded in the study population at New Mexico State
University with reference to the factors listed in
Hypothesis Twelve.

The null hypothesis was rejected at the .05 significance level.

The step-wise classification process identified GPA, semester

course load, three areas of preparation, age, high school rank, and the

ACT natural science scores as the "best" combination of factors for

categorizing the persisters and non-persisters (Table XIV).

Hypothesis Fifteen. There was no difference between
non-Indian college persisters and non-persisters in-
cluded in the study population at the University of
New Mexico with reference to the factors listed in
Hypothesis Eleven.

The null hypothesis was not rejected at the .05 significance level.

There was no significant difference between the two groups on any of the

five factors (Table XV).

Hypothesis Sixteen. There was no difference between
the non-Indian college persisters and non-persisters
included in the study population at the University
of New Mexico with reference to the factors listed
in Hypothesis Twelve.

The null hypothesis was rejected at the .05 significance level.

In the step-wise procedure GPA, the ACT social science scores,

high school rank, and age were identified as the "best" combination of

factors for categorizing the non-Indian persisters and non-persisters at

the University of New Mexico (Table XVI).

Hypothesis Seventeen. There was no difference be-
tween the American-Indian and non-Indian college stu-
dents included in the study population at New Mexico
State University and the University of New Mexico
with reference to the factors listed in Hypothesis
Eleven.

The null hypothesis was rejected at the .05 significance level.

The step-wise classification process identified four of the five

factors as important classifiers of the two groups: financial aids, type

of high school attended, place of residence while attending college, and

sex of the student (Table XVII).

Hypothesis Eighteen. There was no difference between the
American-Indian and non-Indian college students included
in the study population at New Mexico State University
and the University of New Mexico with reference to the
factors listed in Hypothesis Twelve.

The null hypothesis was rejected at the .05 significance level.

In the step-wise classification process the ACT English scores, high

school size, distance of travel, high school rank, the ACT composite

scores, and the ACT social science scores were identified as the "best"

combination of factors for categorizing the American Indian and non-

Indian students (Table XVIII).

Hypothesis Nineteen. There was no difference between the
American-Indian college non-persisters and non-Indian
college non-persisters included in the study population
at New Mexico State University and the University of
New Mexico with reference to the factors listed in
Hypothesis Eleven.

The null hypothesis was rejected at the .05 significance level.

in the step-wise classification process financial aids, type of high

school attended, and place of residence while attending college were

identified as the "best" combination of factors for the purpose of

categorizing the American-Indian and non-Indian non-persisters (Table XIX).

Hypothesis Twenty. There was no difference between the
American-Indian college non-persisters and non-Indian
college non-persisters included in the study population
at New Mexico State University and the University of New
Mexico with reference to the factors listed in Hypothesis
Twelve.

The null hypothesis was rejected at the .05 significance level.
In the step-wise classification process the ACT scores for English, math,
social science, the high school size, the distance of travel, the high
school rank, the GPA, and the semester course load were identified as the
"best" combination of factors for the purpose of categorizing the American-
Indian and non-Indian non-persisters at the two institutions (Table XX).

> Hypothesis Twenty-One. There was no difference between
> American-Indian college persisters and non-Indian per-
> sisters included in the study population at New Mexico
> State University and the University of New Mexico with
> reference to the factors listed in Hypothesis Eleven.

The null hypothesis was rejected at the .05 significance level.
In the step-wise classification process, four of the five factors: financial
aids, place of residence while attending college, sex of the student, and
type of high school attended were identified as the "best" combination of
factors for the purpose of categorizing the American-Indian and non-Indian
persisters (Table XXIO).

> Hypothesis Twenty-Two. There was no difference between
> the American-Indian college persisters and non-Indian
> college persisters included in the study population at
> New Mexico State University and the University of New
> Mexico with reference to the factors listed in Hypo-
> thesis Twelve.

The null hypothesis was rejected at the .05 significance level.
In the step-wise classification process the ACT composite and English
scores, high school size and rank, and the distance traveled from home to
campus were identified as the "best" combination of factors for the pur-
pose of categorizing the American-Indian and non-Indian persisters
(Table XXII).

In summary then, it was found that there was a statistically
significant difference between Indian students at New Mexico State Univer-
sity and at the University of New Mexico and between Indian persisters and
Indian non-persisters at each institution. Also there was found significant
difference between Indians and non-Indians of the study population at New
Mexico State University and the University of New Mexico. The analysis pro-
cess revealed 11 factors as the "best" combination for classifying the
students as Indian or non-Indian.

Tables XXIII and XXIV show the 11 factors that are most important
for classifying the Indian and non-Indian students. Table XXIII shows
percentages and Table XXIV gives means and standard error of the means of
the two groups.

TABLE XXIII

CROSS CULTURAL COMPARISON: Non-Indians and Indians

Factors	Non-Indian Percent	Indians Percent
Financial Aid (Yes)	16.3	68.0
Type of High School (Non-Public)	11.0	24.1
Place of Residence (Off-Campus)	52.3	32.0
Sex (Female)	36.3	45.3

TABLE XXIV

CROSS CULTURAL COMPARISON: Non-Indians and Indians

Factors	Non-Indians		Indians	
	MEAN	SE	MEAN	SE
High School Size	378.74	11.95	232.23	15.32
High School Rank	2.20	.04	2.26	.05
College GPA	2.30	.04	1.84	.06
Semester Course Load	13.25	.24	13.46	.32
ACT				
English	20.08	.25	16.28	.34
Math	20.54	.33	16.34	.42
Distance (From Home)	400.49	36.50	187.38	8.74

Conclusions

The following conclusions were formulated based on an analysis of the findings of the data of the study:

1. American-Indian female students were more apt to persist in college than the American-Indian male students.

2. The American-Indian who enrolled in college after he is 19 years old or older was less apt to persist than are those who enroll at an earlier age.

3. The American-Indians who attended a small, non-public high school were less apt to persist in college than were American-Indians who attended large, public high schools.

4. The American-Indians who ranked from the upper middle to top third of their high school class were more apt to persist in college than were the American-Indians who ranked from the lower middle third downward.

5. The American-Indians who scored below 17 on the English, math, and social science sections of the ACT were less apt to persist in college than were American-Indians who score 17 or more.

6. Those American-Indians who chose one of the professional fields of preparation were more apt to persist in college than were those American-Indians who chose another field of preparation.

7. The Pueblo Indian student at New Mexico State University was more apt to persist than were the Navajo and other Indians.

8. The American-Indian students who persisted maintained a grade point average of 2.0 (C) or better.

9. The American-Indian students who persisted averaged more semester hours each semester, than did the American-Indian who did not persist, and both groups carried more semester hours at New Mexico State University than did those at the University of New Mexico.

10. There was a larger percentage of females among the American-Indian students than there was among the non-Indians.

11. A much larger percentage of the American-Indian students utilized university-owned housing, received financial assistance while attending college, and graduated from smaller, non-public schools than did the non-Indians.

12. The American-Indians scored much lower on the ACT than did the non-Indians.

13. A much larger percentage of the American-Indians chose agriculture and professional training than did the non-Indians.

14. The non-Indians had a higher grade point average than did the American-Indians:

Recommendations

On the basis of the findings of the study the following recommendations are made:

1. The results of this study should be viewed with caution until the study has been replicated at these and other institutions to ascertain if the conclusions are peculiar to the group studied, or can be generalized to other American-Indian students in other colleges.

2. Small group tutoring sessions should be formed for those American-Indian students admitted who are in the lower-middle to bottom-third of their high school class, and for those who score below 17 on the ACT, for the purpose of providing special enrichment to help them overcome deficiencies.

3. The special needs of American-indians from small schools and non-public schools should be studied, and, if results indicate the need, programs should be designed and instituted to assist them in the transition from high school to college.

4. Special counseling for American-Indians should be provided to help them in choosing their major field of study.

5. More emphasis should be placed upon housing the American-Indian students on the campus and in helping to place them with other Indians for roommates.

6. Study should be made of the need for more flexibility or a modification of required courses for the entering older American-Indian student and attempts made to improve the program to meet their needs and encourage them to persist in college.

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APPENDIX A

LETTERS GRANTING PERMISSION TO CONDUCT THE STUDY

COPY

MEMORANDUM

October 7, 1971

To: Mrs. Wiley, Registrar

From: D. C. Roush, Academic Vice President

Mr. Walter Patton has permission to use student records for the purpose of obtaining aggregate data in connection with the preparation of his dissertation.

DCR:lc

cc: Mr. Patton

COPY

THE UNIVERSITY OF NEW MEXICO | ALBUQUERQUE, NEW MEXICO 87106

OFFICE OF THE VICE PRESIDENT FOR ACADEMIC AFFAIRS
TELEPHONE 505 277-2611

September 21, 1971

Mr. Walter Patton
c/o The College of Education
N.M.S.U.
Las Cruces, New Mexico 88001

Dear Mr. Patton:

Vice President Donald C. Roush has talked to me about
your doctoral study of Indian students' success in
higher education. On the basis of his recommendation
and with the understanding that anonymity will be
maintained so far as the performance of a particular
individual is concerned, we are prepared to give you
the following access to student records: (1) You
may inspect records of individual present and past
students in our Registrar's office; (2) you may
make photographic copies of student records, provided
you have a written statement from the student concern-
ed granting permission.

In addition to the cooperation of our Records Office,
Assistant Professor Dan D. Chavez, Director of our
College Enrichment Program, and Mr. Richard Wilson,
Coordinator of Native American Studies, stand ready to
assist you to the extent possible.

Sincerely yours,

Chester C. Travelstead
Vice President for
Academic Affairs

CCT:db
cc: Vice President Donald C. Roush, N.M.S.U.
     Dean J. C. MacGregor

APPENDIX B

DATA GATHERING INSTRUMENT

DATA GATHERING SHEET

Age
    _____

Sex
    _____

Marital Status
    _____

Tribe
    _____

High School Rank
    _____

High School Size
    _____

High School Type
    _____

ACT Composite
    _____

    English
    _____

    Math
    _____

    Social Science
    _____

    Natural Science
    _____

Grade Point Average
    _____

Semester Courseload
    _____

Major
    _____

Residence
    _____

Roommate
    _____

Indian Club Membership
    _____

Financial Aid
    _____

Distance From Home
    _____

APPENDIX C

PARTIAL LIST OF INTERVIEWEES

APPENDIX C

Dr. Roger Buffalohead, Director
Department of Indian Studies,
University of Minnesota

Mr. Royce Flandro, Director of Indian
Studies,
Brigham Young University

Mr. Ronald T. Halfmoon, Acting Director,
Native American Studies,
Washington State University

Mr. Eugene Leitka, Director,
Native American Studies,
New Mexico State University

Dr. G. D. McGrath, Former Dean,
College of Education,
Arizona State University

Mr. Alonzo Spang, Former Director,
American Indian Studies,
University of Montana

Mr. Richard Wilson, Director,
American Indian Studies,
University of New Mexico

APPENDIX D

TABLES

TABLE I

MEANS AND STANDARD ERROR OF THE MEANS:
   Indians at New Mexico State University and the University of New Mexico.

Factors	New Mexico State University MEAN	SE	University of New Mexico MEAN	SE
Age	18.96	0.24	19.16	0.15
High School Rank	2.00	0.09	2.39	0.06
High School Size	169.10	20.70	264.02	19.83
ACT				
Composite	16.35	0.66	17.82	0.39
English	15.06	0.68	16.90	0.37
Math	15.38	0.74	16.82	0.50
Social Science	16.88	0.79	18.50	0.54
Natural Science	17.53	0.76	18.67	0.45
GPA	1.80	0.11	1.85	0.08
Semester Course Load	14.91	0.30	12.73	0.44
Distance	326.40	7.66	117.36	6.82

TABLE II

PERCENTAGES: Indians at New Mexico State University and the University
              of New Mexico.

Factors	New Mexico State University Percent	University of New Mexico Percent
Sex (Female)	32.35	51.85
Marital Status (Married)	5.88	11.11
Residence (Off Campus)	8.82	44.44
Roommate (Indian)	38.23	28.29
Indian Club (Member)	52.94	42.96
Financial Aid (Yes)	77.94	62.96
Type of H.S. (Non-Public)	22.06	25.19
Tribe		
Pueblo	48.53	52.59
Navajo	41.18	42.96
Major		
Technology	0.00	5.93
Science	2.94	3.70
Professional	48.53	38.52
Agriculture	33.82	3.70
Liberal Arts	13.24	33.33

TABLE III

MEANS AND STANDARD ERROR OF THE MEANS:
Indians at New Mexico State University

Factors	Persisters		Non-Persisters	
	MEAN	SE	MEAN	SE
Age	18.58	0.32	19.03	0.36
High School Rank	2.35	0.11	1.65	0.11
High School Size	178.68	26.38	159.53	32.22
ACT				
Composite	18.56	0.94	14.15	0.77
English	17.56	0.89	12.56	0.83
Math	17.82	1.02	12.94	0.91
Social Science	18.62	1.24	15.15	0.91
Natural Science	19.71	1.03	15.35	1.00
GPA	2.39	0.10	1.21	0.12
Semester Course Load	15.15	0.27	14.68	0.54
Distance	327.71	10.16	325.09	11.60

TABLE IV

PERCENTAGES: Indians at New Mexico State University.

Factors	Persister	Non-Persister
Sex (Female)	41.18	23.53
Marital Status (Married)	5.88	5.88
Residence (Off-Campus)	11.77	5.88
Roommate (Indian)	38.24	38.24
Indian Club (Member)	61.76	44.12
Financial Aid (Yes)	79.42	76.47
Type of High School (Non-Public)	20.59	23.52
Tribe		
Pueblo	55.88	41.18
Navajo	38.24	44.12
Major		
Technology	0.00	0.00
Science	5.88	0.00
Professional	58.83	32.24
Agriculture	26.47	41.18
Liberal Arts	8.82	17.16

TABLE V

MEANS AND STANDARD ERROR OF THE MEANS:
Indians at University of New Mexico

Factors	Persisters MEAN	SE	Non-Persisters MEAN	SE
Age	18.82	0.16	19.48	0.24
High School Rank	2.46	0.07	2.32	0.08
High School Size	300.30	28.40	229.32	27.25
ACT				
Composite	18.83	0.62	16.86	0.45
English	17.94	0.52	15.91	0.48
Math	18.52	0.77	15.20	0.59
Social Science	18.83	0.89	18.19	0.83
Natural Science	19.56	0.72	17.81	0.54
GPA	2.39	0.65	1.34	0.10
Semester course load	13.55	0.52	11.94	0.70
Distance	120.12	11.97	114.73	6.92

TABLE VI

PERCENTAGES: Indians at the University of New Mexico.

⌐ ⌐tors	Persisters	Non-Persisters
Sex (Female)	56.06	47.82
Marital Status (Married)	7.58	14.49
Residence (Off Campus)	43.94	44.93
Roommate (Indian)	36.36	21.74
Indian Club (Member	48.48	37.68
Financial Aid (Yes)	65.15	60.87
Type of High School (Non-Public)	16.67	33.33
Tribe		
Pueblo	50.00	55.07
Navajo	40.90	44.97
Major		
Technology	3.03	8.70
Science	1.52	5.80
Professional	48.49	28.99
Agriculture	3.03	4.35
Liberal Arts	34.85	31.88

TABLE VII

MEANS AND STANDARD ERROR OF THE MEANS:
  Non-Indians at New Mexico State University and the University of New
  Mexico.

Factors	New Mexico State University MEAN	SE	University of New Mexico MEAN	SE
Age	19.01	0.26	19.12	0.21
High School Rank	2.19	0.09	2.21	0.05
High School Size	302.10	17.40	417.07	14.98
ACT				
Composite	20.78	0.44	21.35	0.33
English	19.41	0.44	20.42	0.31
Math	20.24	0.58	20.69	0.40
Social Science	21.35	0.56	21.53	0.42
Natural Science	21.63	0.50	22.08	0.42
GPA	2.25	0.67	2.33	0.59
Semester Course Load	13.08	0.38	13.33	0.31
Distance	476.70	64.98	362.38	49.94

TABLE VIII

PERCENTAGES: Non-Indians at New Mexico State University and the University
of New Mexico

Factors	New Mexico State University	University of New Mexico
Sex (Female)	36.00	36.50
Marital Status (Married)	12.00	16.00
Residence (Off-Campus)	33.00	62.00
Financial Aid (Yes)	15.00	17.00
Type of High School (Non-Public)	6.00	13.50
Major		
Technology	1.00	8.50
Science	11.00	10.50
Professional	51.00	31.00
Agriculture	22.00	0.50
Liberal Arts	11.00	40.00

TABLE IX

MEANS AND STANDARD ERROR OF THE MEANS:
  Non-Indians at New Mexico State University

Factors	Persisters		Non-Persisters	
	MEAN	SE	MEAN	SE
Age	18.70	0.19	19.54	0.06
High School Rank	2.24	0.11	2.11	0.12
High School Size	300.94	20.12	304.04	32.59
ACT				
Composite	21.19	0.54	20.08	0.76
English	19.60	0.56	19.08	0.72
Math	20.67	0.69	19.51	1.04
Social Science	22.30	0.66	20.19	0.99
Natural Science	21.92	0.66	21.14	0.78
GPA	2.44	0.68	1.93	0.12
Semester Course Load	14.10	0.36	11.35	0.76
Distance	507.08	86.90	424.97	95.51

TABLE X

PERCENTAGES: Non-Indians at New Mexico State University.

Factors	Persisters	Non-Persisters
Sex (Female)	36.50	35.13
Marital Status (Married)	7.94	18.92
Residence (Off-Campus)	28.57	40.54
Financial Aid (Yes)	14.29	16.22
Type of High School (Non-Public)	4.76	8.11
Major		
Technology	0.00	2.70
Science	6.35	18.91
Professional	60.32	34.14
Agriculture	20.64	24.32
Liberal Arts	11.11	10.81

TABLE XI

MEANS AND STANDARD ERROR OF THE MEANS:
Non-Indians at the University of New Mexico.

Factors	Persisters MEAN	SE	Non-Persisters MEAN	SE
Age	18.97	0.24	19.38	0.40
High School Rank	2.25	0.06	2.15	0.08
High School Size	403.20	18.82	440.68	24.66
ACT				
Composite	21.74	0.41	20.69	0.55
English	20.63	0.38	20.07	0.52
Math	21.26	0.51	19.70	0.6⁷
Social Science	21.73	0.51	21.19	0.70
Natural Science	22.49	0.52	21.36	0.70
GPA	2.68	0.51	1.75	0.10
Semester Course Load	14.04	0.32	12.12	0.61
Distance	372.30	56.10	345.47	46.14

TABLE XII

PERCENTAGES: Non-Indians at the University of New Mexico.

Factor	Persisters	Non-Persisters
Sex (Female)	34.92	39.19
Marital Status (Married)	15.87	16.21
Residence (Off-Campus)	61.11	63.51
Financial Aid (Yes)	16.67	17.58
Type of High School (Non-public)	16.67	8.11
Major		
Technology	7.10	10.80
Science	10.30	10.80
Professional	31.74	29.73
Agriculture	0.79	0.00
Liberal Arts	44.44	32.43

TABLE XIII

MEANS AND STANDARD ERROR OF THE MEANS:
  Indians and non-Indians at New Mexico State University and the University
  of New Mexico.

Factors	Indians MEAN	SE	Non-Indians MEAN	SE
Age	19.09	0.13	19.08	0.17
High School Rank	2.26	0.05	2.20	0.04
High School Size	232.23	15.20	378.74	11.94
ACT				
Composite	17.33	0.34	21.16	0.26
English	16.29	0.34	20.08	0.25
Math	16.34	0.42	20.54	0.33
Social Science	17.96	0.45	21.47	0.33
Natural Science	18.29	0.39	21.93	0.32
GPA	1.83	0.62	2.30	0.45
Semester Course Load	13.46	0.31	13.25	0.24
Distance	187.38	8.67	400.49	36.50

TABLE XIV

PERCENTAGES: Indians and non-Indians at New Mexico State University
and the University of New Mexico.

Factors	Indians	Non-Indians
Sex (Female)	45.32	36.33
Marital Status(Married)	9.36	14.67
Residence (Off-Campus)	32.51	52.33
Financial Aid (Yes)	67.98	16.33
Type of High School (Non-Public)	24.14	11.00
Major		
Technology	3.94	6.00
Science	3.45	10.67
Professional	41.87	37.67
Agriculture	13.79	7.67
Liberal Arts	26.60	30.33