



A study of selected characteristics of successful and unsuccessful American Indian students enrolled at Montana State University from September, 1967 to June, 1972  
by Daniel Louis Voyich

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of  
DOCTOR OF EDUCATION  
Montana State University  
© Copyright by Daniel Louis Voyich (1974)

**Abstract:**

The purpose of this study was to investigate selected characteristics that may be related to the success or failure of American Indian students enrolled at Montana State University.

The subjects in this study were divided into two categories (successful and unsuccessful) with three groups listed under each category. The study was based on 182 Indian students enrolled at Montana State University during the five-year period from September, 1967 through June, 1972.

The raw data for this study consisted of information on 16 variables and were tested by using the chi square and the t-test. The statistical difference was considered significant at the .05 level of confidence. The data for the variables were obtained from the personal files of the Indian students which are maintained at the Center for Intercultural Programs, the Registrar's Office, and the Testing and Counseling Service.

Ten of the sixteen variables proved to be statistically significant. The ten variables which were significant are: (1) age; (2) blood quantum; (3) number of living children in family; (4) American Indian Club attendance; (5) marital status; (6) number of credits carried; (7) result of the American Council on Education Psychological Examination for College Freshmen; (8) result of the Cooperative School and College Ability Tests; (9) result of the Ohio State University Psychological test; and (10) high school grade point average.

A STUDY OF SELECTED CHARACTERISTICS OF SUCCESSFUL AND  
UNSUCCESSFUL AMERICAN INDIAN STUDENTS ENROLLED AT  
MONTANA STATE UNIVERSITY FROM SEPTEMBER, 1967  
TO JUNE, 1972

by


DANIEL LOUIS VOYICH

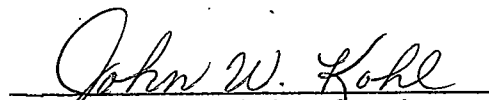
A thesis submitted to the Graduate Faculty in partial  
fulfillment of the requirements for the degree

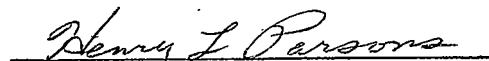
of

DOCTOR OF EDUCATION

Approved:

  
Head, Major Department

  
Chairman, Examining Committee

  
Graduate Dean

MONTANA STATE UNIVERSITY  
Bozeman, Montana

June, 1974

## ACKNOWLEDGMENT

The writer wishes to express his gratitude and appreciation to the members of his committee. This dissertation would not have been possible without their help. I am especially thankful for their patience and consideration.

The writer wishes to express gratitude for the counsel and encouragement of Dr. Elnora A. Old Coyote during the progress of his doctoral program.

Special thanks is given to Dr. John W. Kohl for his excellent guidance and help in arriving at the solution to many of the problems encountered during the course of this dissertation.

The researcher is especially appreciative of the statistical assistance given him by Dr. Albert Suvak, Head of the Testing and Counseling Center.

Finally, the writer dedicates this endeavor to his lovely wife, Marie, and children for their patience, understanding, encouragement, and help during this study, at considerable sacrifice to their own personal welfare and happiness.

D.L.V.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION . . . . .	1
Need for the Study . . . . .	2
Definition of Terms. . . . .	4
Statement of the Problem . . . . .	4
General Questions to be Answered . . . . .	12
Limitations of the Study . . . . .	15
Summary. . . . .	15
II. REVIEW OF LITERATURE . . . . .	16
Indian Culture . . . . .	16
Intelligence and Educational Achievement of American Indians. . . . .	21
Indian High School Dropout Problem . . . . .	25
Higher Education of Indian Students. . . . .	29
III. PROCEDURES . . . . .	34
Population . . . . .	34
Methods of Collecting Data . . . . .	34
Hypotheses . . . . .	35
Statistical Methods. . . . .	38
Summary. . . . .	39
IV. ANALYSIS OF DATA . . . . .	40
Variables. . . . .	41
Sex. . . . .	41
Age. . . . .	42
Blood Quantum. . . . .	43
On or Off Reservation. . . . .	44
Type of High School. . . . .	45
Home Reservation . . . . .	47
Bilingualism . . . . .	48
Field of Study . . . . .	49
Number of Children . . . . .	51
Club Attendance. . . . .	52
Marital Status . . . . .	54
Number of Credits. . . . .	55
Cooperative School and College Ability Tests (SCAT). . . . .	56
American Council on Education Psychological Examination for College Freshmen (ACE) . . . . .	57

Chapter	Page
Ohio State University Psychological Test (Ohio) . . . . .	58
High School Grade Point Average. . . . .	59
Summary. . . . .	60
V. CONCLUSIONS, OBSERVATIONS, RECOMMENDATIONS, AND SUMMARY. .	62
Conclusions, Observations, and Recommendations . . . . .	62
Summary and Extended Recommendations . . . . .	81
APPENDIX . . . . .	85
LITERATURE CITED . . . . .	94

## LIST OF TABLES

Table	Page
1. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Sex. . . . .	41
2. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Age. . . . .	42
3. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Blood Quantum. . . . .	44
4. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Living On or Off Reservation. . . . .	45
5. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To the Type of High School From Which the Indians Graduated . . . . .	46
6. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Their Home Reservation. . . . .	48
7. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Being Bilingual. . . . .	49
8. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Field of Study . . . . .	51
9. Comparison of Successful and Unsuccessful Indian Students With the Number of Children in the Family. . . . .	52
10. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Club Attendance. . . . .	52
11. Chi Square Analysis of Successful and Unsuccessful Categories of Students Compared As To Club Attendance (Second Run) . . . . .	53
12. Chi Square Analysis of Successful and Unsuccessful Categories of Indian Students Compared As To Marital Status . . . . .	54

Table	Page
13. Comparison of Successful and Unsuccessful Indian Students With the Number of Credits Carried . . . . .	55
14. Comparison of Successful and Unsuccessful Indian Students with the SCAT. . . . .	56
15. Comparison of Successful and Unsuccessful Indian Students With the ACE . . . . .	58
16. Comparison of Successful and Unsuccessful Indian Students With Scores on the Ohio Test . . . . .	59
17. Comparison of Successful and Unsuccessful Indian Students With High School Grade Point Average . . . . .	60

ABSTRACT

The purpose of this study was to investigate selected characteristics that may be related to the success or failure of American Indian students enrolled at Montana State University.

The subjects in this study were divided into two categories (successful and unsuccessful) with three groups listed under each category. The study was based on 182 Indian students enrolled at Montana State University during the five-year period from September, 1967 through June, 1972.

The raw data for this study consisted of information on 16 variables and were tested by using the chi square and the t-test. The statistical difference was considered significant at the .05 level of confidence. The data for the variables were obtained from the personal files of the Indian students which are maintained at the Center for Intercultural Programs, the Registrar's Office, and the Testing and Counseling Service.

Ten of the sixteen variables proved to be statistically significant. The ten variables which were significant are: (1) age; (2) blood quantum; (3) number of living children in family; (4) American Indian Club attendance; (5) marital status; (6) number of credits carried; (7) result of the American Council on Education Psychological Examination for College Freshmen; (8) result of the Cooperative School and College Ability Tests; (9) result of the Ohio State University Psychological test; and (10) high school grade point average.



## CHAPTER I

### INTRODUCTION

A rapid rise in the number of American Indian students attending universities is expected during the 1970's due to the increasing number of Indian students graduating from high school, the availability of scholarship money, and an increasing minority awareness in higher education. The Bureau of Indian Affairs maintains a scholarship grant program for Indian students wishing to attend universities. Several states provide scholarships for Indian students attending universities and many Indian tribes maintain scholarship funds from their tribal monies.

As more Indian students graduate from high school, and as more attention is being paid to minorities in America, post-secondary educators are becoming increasingly aware of minorities' further educational needs. University administrators are responding by tailoring existing programs to meet Indian students' needs.

In 1970 Havighurst concluded his national study of American Indian education. In this study Havighurst stated:

There has been a rapid increase in the numbers of Indian college students during the decade from 1960 to 1970. Approximately 8,000 Indian students are now in college. . . . The proportion of Indian youth who go to college has probably multiplied five-fold between 1960 and 1970.<sup>1</sup>

---

<sup>1</sup>Havighurst, Robert J., The Education of Indian Children and Youth, Office of Community Programs, University of Minnesota, Minneapolis, Minnesota, 1970, p. 39.

The high attrition rate of American Indian students has become a major concern of university administrators on many campuses. For this reason universities are beginning to respond to the special needs of American Indians enrolled on their campuses.

Indian studies programs have been developed on several American campuses and appear to be expanding. Since 1967 the three largest universities in Montana have begun Indian studies programs in an effort to provide meaningful programs and methods to meet the needs of the Indian students. The American Indian students come to the university from a variety of family and tribal experiences and often need help and guidance in adjusting to unfamiliar university requirements and expectations. Since the current trend is toward a greater percentage of American Indian students attending universities, there is a definite need for studies of the American Indian university student which might facilitate a higher percentage of degree completions.

#### Need for the Study

A review of the literature revealed that a considerable amount of research has been done on Indian education. However, a goodly portion of this research was done in relation to grades one through twelve. Those studies on Indians in higher education have shown that Indian university students, perhaps because of their varied backgrounds, encountered certain unique difficulties within their university

experiences, and many dropped out of school, although reasons for discontinuance have not thoroughly been examined.

In 1967 Montana State University acknowledged the unpreparedness of American Indian students for university experiences by establishing the position of an advisor to American Indian students. That office is to help and guide American Indians enrolled at Montana State University. In 1970 a Professor of Indian Studies and Coordinator of American Indian Programs was appointed. Efforts to develop an American Indian studies program with the full participation of all Montana Indian tribes are currently underway.

Each year Indian students who are poorly equipped academically and/or culturally to make the adjustment necessary to succeed in the campus environment enroll at Montana State University. Because of Indians' difficulties with university courses and their high dropout rate, there is a need for more information about the Indian students' cultural background.

The major purpose of this study was to obtain further knowledge and information regarding the Indian students at Montana State University which would enable the university to better understand the Indian students and to do a better job in helping the students adjust to the campus environment and thus succeed academically.

### Definition of Terms

Successful student. For the purpose of this study a successful student was defined as: (1) one who had graduated from Montana State University; or (2) one who was enrolled and had a satisfactory cumulative grade point average, that is a 2.00; or (3) one who had dropped out of school but had a satisfactory cumulative grade point average at the time of leaving school.

Unsuccessful student. For the purpose of this study an unsuccessful student was defined as: (1) one who had been suspended due to low academic achievement; or (2) one who had dropped out of school voluntarily but had an unsatisfactory cumulative grade point average (less than 2.00); or (3) one who was enrolled and had an unsatisfactory cumulative grade point average.

### Statement of the Problem

The problem of this study was to investigate selected characteristics that may be related to the successful and/or unsuccessful American Indian student enrolled at Montana State University. These characteristics included the following:

Sex. Since both sexes attend Montana State University, it was desirable to know the success failure ratio of each sex. Aurbach and Fuchs' study of Indian education indicated virtually no difference in

the amount of schooling completed (in 1960) by Indian men and Indian women.<sup>2</sup> However, a somewhat higher proportion of men (7 per cent) than women (5 per cent) had post-secondary school education. Bryde, in comparing the achievement of Indian eighth grade boys with Indian eighth grade girls from the fourth grade to the eighth grade, found that for each year the girls achieved slightly higher but none of the differences was significant.<sup>3</sup>

Age. This variable was considered because the age range was wide (17-48) and the study might reveal an optimum age for Indian students to succeed in a university. In 1962 McGrath, who studied Indians in higher education in the Southwest, found that the Indian university students' age was significantly related to grade point average in a positive direction suggesting that the older the student is the better chance he has of making satisfactory grades in a university.<sup>4</sup>

Blood quantum. The Montana State University Indian students were divided into four degree-of-Indian blood groups: (1) less than one-quarter Indian blood; (2) one-quarter to less than one-half Indian

---

<sup>2</sup>Aurbach, Herbert A., and Fuchs, Estelle, The Status of American Indian Education, Pennsylvania State University, University Park, Pennsylvania, 1970, p. 33.

<sup>3</sup>Bryde, John F., The Indian Student: A Study of Scholastic Failure and Personality Conflict, Dakota Press, Vermillion, South Dakota, 1970, p. 43.

<sup>4</sup>McGrath, G. D., and others, Higher Education of Southwest Indians with Reference to Success and Failure, Arizona State University, Tempe, Arizona, 1962, p. 268.

blood; (3) one-half to less than three-quarter Indian blood; and (4) three-quarter or more Indian blood. This variable was considered to determine if a relationship existed between Indian blood quantum and success in higher education. McGrath's study indicated that there was a slight tendency for full-blooded Indian students to be less successful than those of some degree of mixed blood.<sup>5</sup> Bryde's study of eighth grade Sioux Indian students revealed that the differences in means and standard deviations among the four degree-of-Indian blood groups (one-quarter blood, one-half blood, three-quarter blood, and full bloods) were so small that no significant differences in achievement were found.<sup>6</sup>

Grew up on or off the reservation. Some reservations are very remote and the contact with non-Indian people is often minimal. It was desirable to determine the effect of Indian/non-Indian socialization experiences. Do those Indian students who grow up off reservations have more success in universities?

Type of high school from which the Indian graduated (public, church related or federal). Since there are three main types of secondary schools in which Indian students are educated, it was desirable to determine whether or not a relationship existed between the type of school the Indian student graduated from and success at

---

<sup>5</sup>Ibid., p. 268.

<sup>6</sup>Bryde, op. cit., p. 43.

Montana State University. Beatty stated:

There is a good deal of evidence to indicate that Indian children attending public schools do very well in this school environment, and in many cases exceed the academic accomplishment of Indian children in attendance at federal schools. Superficially, this would indicate that the most satisfactory educational environment for Indians is a typical American public school. . . . It would be erroneous to conclude that public schools have been uniformly successful in dealing with Indian children. For example, there is evidence that in some areas of Montana a great many of the Indian children who entered some of the schools were non-English speaking children from full-blood or half-blood homes, and made a very slow adaptation to the English language. As a result they dropped out of school long before mastering the academic subjects of the elementary grades.<sup>7</sup>

In 1948, Peterson made the following statement:

It should also be pointed out that no single type of school consistently demonstrated the highest quality of achievement in all regions, thereby indicating that other factors may be of equal or greater importance than the type of school. Most of the differences between the achievement of students in the different regions were relatively large, too large to have occurred by chance.

Home reservation. Since there are several reservations from which Indian students come to attend Montana State University, it was desirable to determine if a relationship existed between the home reservation of the Indian student and success at Montana State University.

---

<sup>7</sup>Beatty, Willard D., Education for Cultural Change, U. S. Department of Interior, Washington, 1953, p. 181.

<sup>8</sup>Peterson, Shailer. How Well Are Indian Children Educated? Bureau of Indian Affairs, Department of Interior, Washington, D. C., 1948, p. 13.

Bilingualism. Because many Indian students are bilingual, this variable was considered important to determine whether a relationship existed between being bilingual and success in higher education. Spang wrote:

Because of language barriers the Indian child is faced with a serious problem in communicating. The child comes to school speaking his native language and he predicates all of his concept formations, vocabulary, etc., upon his language. Once in the classroom and in the system, he experiences the difficulties of communicating adequately. A child may know what he wants to communicate but finds it difficult, if not impossible, to communicate this to the counselor, or teacher in English, since it is not his major language. His fear of making a mistake--using the wrong word, pronouncing it wrong, etc.--may be so great that he does not even attempt to express himself.<sup>9</sup>

McGrath's study showed that there seemed to be a definite but not striking tendency for those students who come from homes where English was never spoken to do better than students who had come from homes where English was spoken.<sup>10</sup>

Number of living children in family. Because of the wide range of number of living children in the family (one to eighteen), it appeared that this variable might show a relationship between the number of children in the family and success at Montana State University. Selinger, studying American Indian high school graduates, observed that the average number of children in the family of the

---

<sup>9</sup>Spang, Alonzo T., "Understanding the Indian," Personnel and Guidance Journal, Vol. 50, No. 2:99, October, 1971.

<sup>10</sup>McGrath, op. cit., p. 268.



Indian high school graduate was 7.8, as compared to 2.3 in the typical American family.<sup>11</sup> He found no relationship between the size of the family and whether the male Indian graduate proceeded into a post-high school education. However, Selinger found that the size of the family did affect the chances of the Indian female continuing her education. The smaller the family, the more likely the Indian female was to continue her post-high school education.

Field of study. This variable was considered in this study because Indian students at Montana State University are enrolled in many different curricula. It appeared to be desirable to determine the curricula which are most popular and the success/failure ratio of each. Selinger found that the most popular program entered by Indian females at the universities was liberal arts, followed by education.<sup>12</sup> For Indian males the most popular programs were business education and education. However, Selinger did not establish a success ratio.

Montana State University American Indian Club attendance. Since a large number of Indian students at Montana State University are active in the American Indian Club, it was desirable to ascertain whether or not a relationship existed between club attendance and academic success. If it did, then encouragement to join such organizations might serve to

---

<sup>11</sup>Selinger, Alphonse D., The American Indian Graduate: After High School, What? Northwest Educational Laboratory, Portland, Oregon, 1968, p. 79.

<sup>12</sup>Ibid., p. 24.

integrate the Indian students into university activities such as building a float and participating in homecoming activities, putting on an Indian dancing and Indian singing program for the student body and having a yearly Indian youth conference at Montana State University.

Marital status. Because both single and married Indian students attend Montana State University, it was desirable to ascertain the success/failure ratio of each group. Mueller's study of non-Indian married university students observed that in age and in academic grades the married students are little if any ahead of the single students but a much larger proportion of them are employed; and the typical married student lives under constant and withering financial stress.<sup>13</sup>

Number of credits carried. This variable was considered important because the number of credits carried may be an indicator of success at Montana State University. For many Indians time is a relative thing. Indians tend to judge time by their readiness or need rather than by the measure on the clock. Anderson says time orientation or "Indian time" is not too problematic, but it still affects the student's academic record.<sup>14</sup> He states that there are cultural differences in time interpretation found among Indian college students. These differences are exasperating to the professor who does not

---

<sup>13</sup>Mueller, Kate H., "The Married Student on Campus," College and University, Vol. 35, No. 2:156, Winter, 1960.

<sup>14</sup>Anderson, Ned, "I Broke the Barrier," Indian Programs, University of Arizona, Tucson, Vol. 1, No. 4:1, Winter, 1970.

understand tardiness and inattention to such things as conference appointments. Perhaps Montana State University Indian students need more than four years to complete a four-year degree program.

Results of the American Council on Education Psychological Examination for College Freshmen (ACE). The purpose of including this variable was to determine if there was a relationship between the scores on this standardized test and success at Montana State University. The ACE is a psychological test of mental abilities.

Results of the Cooperative School and College Ability Tests (SCAT). The purpose of this variable (as with the ACE) was to determine if there were significant differences at Montana State University in successful and unsuccessful university Indian students with respect to their scores on the Cooperative School and College Ability Tests. Since the SCAT was designed to aid in estimating the capacity of a student to undertake additional schooling, it was desirable to determine if there was a relationship between the scores and success.

Results of the Ohio State University Psychological Test (Ohio). Since the score from this test is postulated to indicate aptitude for college level learning, this variable was considered to determine the relationship between the score of this test and success of Indian students at Montana State University. For many years designers of intelligence tests have been besieged by the criticism that such instruments do not really measure innate potential but rather are loaded

with the cultural biases of middle-class Western society.<sup>15</sup> There have been several unsuccessful attempts to develop a "culture free" intelligence test.

High school grade point average. Since past academic performance is often a good indicator of future academic performance, this variable was included to determine whether a significant relationship existed between high school grade point average and success in college. McGrath observed in his study that high school rank in class for Indian students was only slightly related to college grade point average.<sup>16</sup>

#### General Questions to be Answered

The researcher attempted to answer the following questions:

1. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to sex?
2. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to age?
3. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to blood quantum.

---

<sup>15</sup>Aiken, Lewis, Psychological and Educational Testing, Allyn and Bacon, Boston, 1971, p. 140.

<sup>16</sup>McGrath and others, op. cit., p. 269.

4. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to growing up on or off reservation?

5. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to the type of high school from which the Indians graduated (public, church related, federal)?

6. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to the reservation on which they are enrolled.

7. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to being bilingual?

8. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to the number of living children in the family?

9. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to the number of credits carried?

10. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to MSU Indian Club attendance.

11. Are there significant differences at Montana State

University in successful and unsuccessful university Indian students with respect to marital status?

12. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to field of study?

13. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to their scores on the American Council on Education Psychological Examination for College Freshmen?

14. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to their scores on the Cooperative School and College Ability Tests?

15. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to their scores on the Ohio State University Psychological Test?

16. Are there significant differences at Montana State University in successful and unsuccessful university Indian students with respect to high school grade point average?

### Limitations of the Study

The limitations of this study were as follows:

1. This study was limited to include only those Indian students who completed at least one quarter at Montana State University during the period from September, 1967 to June, 1972.
2. This study was limited to the information from the files of the Indian students, maintained at the Center for Intercultural Programs, the Testing and Counseling Service, and the Registrar's Office.

### Summary

Although more American Indian students are attending universities now than ever before, many are encountering a variety of problems and the discontinuance rate is high. Many universities have initiated programs in an effort to help Indians complete their university education. More data is needed to identify and make allowances for Indian characteristics that contribute to the success of Indian students attending Montana State University.

This study was intended to provide some of these data.

## CHAPTER II

### REVIEW OF LITERATURE

The review of literature appropriate to this study included the following areas: Indian culture, intelligence and educational achievement of American Indians, Indian high school dropout problems, and higher education of Indian students.

#### Indian Culture

Education properly used can perform, and has performed, an important role in reconciling cultural differences and in developing mutual respect between Indians and their non-Indian neighbors.<sup>1</sup>

Cultural barriers have been removed for countless numbers of individual Indians through education and association with non-Indians.

Havighurst wrote:

The conclusion which is drawn by most social scientists from the data on Indian cultures and Indian intelligence is that the American Indians of today have about the same innate equipment for learning as have the white children of America. But in those Indian tribes which have preserved their traditional cultures to some extent, there is a limited motivation of children for a high level performance in schools and colleges.<sup>2</sup>

---

<sup>1</sup>Thompson, Hildegard, "Education Among American Indians: Institutional Aspects," The Annals of the American Academy of Political and Social Science, Vol. 311:95, May, 1957.

<sup>2</sup>Havighurst, Robert J., "Education Among American Indians: Individual and Cultural Aspects," The Annals of the American Academy of Political and Social Science, Vol. 311:113, May, 1957.



Zintz stated:

Language is an integral part of a people's culture. It is the means by which the attitudes and feelings of the group are made known. Anthropologists and linguists have clearly stated this interdependence of culture and language . . . . Languages are socially determined. Their uses, form and content mirror physical setting, historical events, contacts, cultural level, mental climate, and cultural history . . . . Inadequate command of language retards cultural development and acquisition.<sup>3</sup>

American Indians as individuals do not all conform to one general category. Some Indians fit the traditional patterns while other Indians have become bi-cultural.

Regarding the Indian as a man of two cultures, Havighurst wrote:

Education is always a process of teaching a culture and the education provided by the whites for the Indians has always been aimed at teaching the white culture or at least some elements of it to people who have been reared in another culture. In the period of "Americanization" of the Indians the whites' education was more explicitly aimed at making "white men" out of Indians than it has been since 1930. . . . Therefore, the Indian who is subjected to white education becomes a man of two cultures. Sometimes the Indian culture predominates and sometimes the white culture wins.<sup>4</sup>

The Spindlers have grouped Indians into four main classes of Indians or four levels of acculturation.<sup>5</sup> The first level refers to those Indians who were raised as an Indian and had only marginal

---

<sup>3</sup>Zintz, Miles V., "Problems of Classroom Adjustment of Indian Children in Public Elementary Schools in the Southwest," Science Education, Vol. 46:268, April, 1962.

<sup>4</sup>Havighurst, op. cit., p. 107.

<sup>5</sup>Spindler, George D., and Louise S., "American Indian Personality Types and Their Sociocultural Roots," Annals of the American Academy of Political and Social Science, Vol. 311:154-157, May, 1957.

contacts with whites and white culture. They live in a world perceived and patterned by the symbols and motivation of the traditional culture. These people have changed very little over time, maintaining a life style and belief pattern very similar to that of their ancestors. They think and act as their ancestors did. The second level consists of Indians who were raised Indian and frequently by grandparents, but have experienced wide and intensive contact with the white culture. They are moving out of the traditional Indian life style but have not fully accepted the non-Indian customs. They are ambivalent about whites and white culture and have some doubts about personal adequacy in the Indian as well as in the white man's world. A third level refers to those Indians who are between the white and Indian ways of life. They accept new social patterns and move into the white American lower-class society. They are marginal people and they constitute a sizeable portion of most tribes today. The fourth level consists of Indians who are acculturated and have acquired the attitudes and values of the success-oriented, middle-class, non-Indian society. Indians in the fourth level are not represented in many reservation communities today.

The Indian population is gradually becoming acculturated, but they are encountering problems.

Misiaszek wrote:

Today's society in which American Indians find themselves is based on an economy that calls for highly competitive ability with the ultimate goal understood to be financial success and upward social mobility. It follows that an entirely new set of standards and values is imposed on Indian people today, and there is some doubt in their minds if they want to accept these new standards especially because it means that they must repudiate all the deeply ingrained values of their culture if they are to conform to the new. It is safe to state that many are going through the motions outwardly, but they have not really accepted these modern values.<sup>6</sup>

The American Indian can be assisted in making an adjustment to today's society through education. All children must be assured of a sense of belonging from those around them. They must be provided with a feeling of self-worth as a means of achieving the level of aspiration they sense from their family and others. To a school teacher who has had little experience with Indians, perhaps the most baffling aspect of Indian behavior is their apparent shyness and fear of making a mistake.<sup>7</sup>

Wax and Thomas wrote:

Social discourse is one of the areas Indians and whites most easily misunderstand each other. Placed in an informal social gathering such as a small party where he knows only the host, the Indian will usually sit or stand quietly, saying nothing and seeming to do nothing. He may do this so naturally that he disappears into the background, merging with the wall fixtures. If addressed directly he will not look at the speaker; there may be considerable delay before the reply and this may be pitched so softly as to be below the hearing threshold of the white

---

<sup>6</sup>Misiaszek, Lorraine, "The Cultural Dilemma of American Indians," Social Education, Vol. 6:438, April, 1969.

<sup>7</sup>Greenberg, Norman C., and Gilda M., Education of the American Indian, Brown Book Company, Dubuque, Iowa, 1964, p. 14.

interlocutor; he may even look desperately away and give no response at all.<sup>8</sup>

Indians differ from each other as do Americans or any other group.

Greenberg wrote:

Individual differences in level of acculturation as well as other kinds of individual differences are well known to teachers in Indian schools. It is difficult, however, to distinguish between personality traits and cultural traits with the result that the child of an acculturated Indian family will appear to be extra bright and diligent when compared with his fellow student from an unacculturated home and thus be given an unfair advantage.<sup>9</sup>

Roessel concerning the Indian child living between two worlds wrote:

Education is the vehicle that may be used by the Indian to acquire the fruits and blessings of the white man's way of life. In order for educators to reach the Indian child and to instill within that child a desire to learn, it is necessary for that educator to have a basic understanding of the culture of the Indian.<sup>10</sup>

In summary, the difficulties which the Indian students experience in school have usually been attributed to differences within the Indian culture. The importance of culture to the group life of a people cannot be overestimated.

---

<sup>8</sup>Wax, Rosalie H., and Thomas, Robert K., "American Indians and White People," Phylon, Vol. 22:305, No. 4, 1961.

<sup>9</sup>Greenberg, op. cit., p. 19.

<sup>10</sup>Roessel, Robert A., Handbook for Indian Education, Amerindian Publishing Company, Los Angeles, 1962, p. 19.

Intelligence and Educational Achievement  
of American Indians

A number of studies concerning the intelligence and educational achievement of American Indians have been conducted. Havighurst said that studies of intelligence of Indian children may be divided into two groups--those reported before and after 1935.<sup>11</sup> He said that prior to 1935, studies of intelligence of American Indians tended to show that American Indians appeared to be less intelligent than white children. After 1935 research studies tended to show that there appeared to be no difference in average intelligence between Indian and white children, except for such differences as were explainable on the basis of cultural differences.

In a 1944 study, Havighurst administered a shortened form of the Grace Arthur Point Performance Scale to 670 Indian children.<sup>12</sup> The Arthur Test was non-verbal and was especially suited for non-English speaking children. Havighurst concluded:

The results of this study indicate that Indian children do about as well as white children on a performance test of intelligence and that differences exist from tribe to tribe and among communities within a tribe--differences of the sort that are found

---

<sup>11</sup>Havighurst, Robert J., "Education Among American Indians: Individual and Cultural Aspects." The Annals of the American Academy of Political and Social Science, Vol. 311:110, May, 1957.

<sup>12</sup>Havighurst, Robert J., and Hilkevitch, Rhea R., "The Intelligence of Indian Children as Measured by a Performance Scale," Journal of Abnormal and Social Psychology, 39:419-433, October, 1944.

among groups of white children in various communities.<sup>13</sup>

In another study the Goodenough Draw-a-Man Test was administered to 325 Indian children from six tribes.<sup>14</sup> The results of this study showed that cultural differences may be in effect as Indian children were found to do considerably better than white children on this test which requires drawing a figure of a man.

Concerning educational achievement of Indian children, Havighurst wrote:

When comparisons of Indian and white pupils are made at various grade levels it is found that the Indian children compare more favorably with white children in elementary grades than in high school. This is probably due to the fact that the material taught in elementary grades is closer to the life experience of the Indian children--more practical--than is the more abstract teaching of the high school. Thus the home and community life of the Indian child tends to aid him in learning the simple mental skills taught in elementary school but they contribute little toward helping him with high school subjects.<sup>15</sup>

Regarding educational achievement of American Indians, Aurbach and Fuchs wrote:

Among children enrolled in school in 1960, a much higher proportion of Indian than whites or Negroes were likely to be a year or more below the grade level expected for their age group . . . . Indian children start school later and by age 7 half of

---

<sup>13</sup>Ibid., p. 431.

<sup>14</sup>Havighurst, Robert J., Gunther, Minna K., and Pratt, Inez E., "Environment and the Draw-A-Man Test: The Performance of Indian Children," Journal of Abnormal and Social Psychology, 41:50-63, January, 1946.

<sup>15</sup>Havighurst, Robert J., "Education Among American Indians: Individual and Cultural Aspects," The Annals of the American Academy of Political and Social Science, Vol. 311:114, May, 1957.

them are below grade 2 as compared to one out of three whites and blacks. The proportion of Indians at the expected grade level decreases at every age level, so that by age 13 only three in ten reached grade 8 and by age 17 less than two in ten are in their last year of high school. Moreover, by age 17 over four out of ten Indians are at least two grades below the expected level for that age group.<sup>16</sup>

Bryde's study of Oglala Sioux students on the Pine Ridge Reservation found that apart from an initial native shyness, Sioux children are perfectly normal in their emotional responses when they first come to school.<sup>17</sup> Bryde says it takes the young Sioux student about three years to become acclimated to this new situation. During this time which comprises the first three grades, the Sioux Indian students as a group do not come even close to national norms on standardized achievement norms. However, Bryde says their I.Q.'s are perfectly normal.

Then with dramatic suddenness at the fourth grade the Indian students achieve and even exceed standardized norms. Bryde calls this the "golden age" of achievement which often lasts until the students are in the seventh grade.

About the seventh and eighth grades Bryde found that there begins a steady decline in achievement, and this continues to the twelfth grade and is accompanied by a 60 per cent dropout rate. In addition,

---

<sup>16</sup>Aurbach, Herbert A., and Fuchs, Estelle, The Status of American Indian Education, Pennsylvania State University, University Park, Pennsylvania, 1970, p. 37.

<sup>17</sup>Bryde, John F., The Indian Student: A Study of Failure and Personality Conflict, Dakota Press, Vermillion, South Dakota, 1970.

by the twelfth grade, most Sioux Indian groups were as far as two years behind in achievement.

Coombs in his exhaustive study on achievement of Indian students pointed out that there are differences in average achievement among groups of pupils of different races attending different types of schools.<sup>18</sup> He found the following clear-cut general hierarchy: (1) white pupils in public schools; (2) Indian pupils in public schools; (3) Indian pupils in federal schools; and (4) Indian pupils in Mission schools. However, before valid interpretation of this hierarchy can be made, Coombs cautioned:

There is a popular off-hand assumption that the quality of a school can be determined by the amount its pupils learn in a given period of time by comparison with other pupils and other schools. This assumption is both persistent and pervasive. It is indulged in not only by the lay public, but also by teachers who should know better. It is as though all pupils were considered to be equally blank and equally impressionable sheets of paper which are sent to school and upon which no one is ever permitted to mark except the school itself. If such were the case, the school should indeed be held entirely accountable for the amount and rate at which students learn, but the facts are something quite different. The facts are that children do not learn everything they know in school, although some are far more dependent upon the school than are others; they do not all start even in point of ability; or interest, or experience, or health; and they certainly do not remain even throughout their school careers in terms of learning advantages outside the school. Most persons know, of course, that this is true of individual pupils but they forget sometimes that whole groups of pupils may be characterized by such differences.<sup>19</sup>

---

<sup>18</sup>Coombs, Madison L., and others, The Indian Child Goes to School, Washington, D. C., Bureau of Indian Affairs, U. S. Department of Interior, 1958; p. 4.

<sup>19</sup>Ibid., p. 4.



Coombs continued:

It is not to be wondered at then that the white pupils in the study as a group consistently made higher scores than Indian pupils considering the great cultural advantage they enjoyed with respect to such things as language, motivation, and out-of-school learning opportunities. Nor is it surprising that the Indian pupils who attended public schools achieved better on the average than Indian pupils who attended federal and mission schools since culturally they were more advanced.<sup>20</sup>

In summary, several recent studies have indicated that the educational achievement of Indian students is considerably less than that of non-Indian students. Culturally different groups tend to do poorly on tests developed to measure western middle class intellectual functioning. Different cultures develop different types of intelligence.

Studies show that the school achievement of children depends to a large extent on their experience in their family and their local environment.

#### Indian High School Dropout Problem

During the decade 1960-70 national attention focused on the school dropout problem. Graduation from high school has become the accepted educational goal for most Americans and stands as the minimum requirement not only for higher education but also competitive position in the employment market. As late as 1900 not more than three or four

---

<sup>20</sup>Ibid., p. 5.

of every one hundred fifth graders were graduated from school eight years later, and it was only in 1950 that more than 50 per cent of fifth graders eventually were graduated from high school.<sup>21</sup>

Aurbach stated that because the responsibility for the education of Indian youth is distributed between three types of agencies (federal, state, and private), uniform data concerning school attendance, school persistence, and rates of school leaving prior to graduation at the twelfth grade are difficult to obtain.<sup>22</sup> The difficulty of data collection is further complicated by a high degree of school transfers.

In an effort to collect recent data on the Indian high school dropout, the Southwest Cooperative Educational Laboratory<sup>23</sup> and the Northwest Regional Educational Laboratory<sup>24</sup> have completed studies on the American Indian high school dropout. The research of the two laboratories covered a twelve-state area where large numbers of American Indians reside: Arizona, Alabama, Nevada, New Mexico, southern Colorado, and southern Utah were covered by the Southwest Laboratory;

---

<sup>21</sup>Aurbach, Herbert A., and Fuchs, Estelle, The Status of American Indian Education, Pennsylvania State University, University Park, Pennsylvania, 1970, p. 53.

<sup>22</sup>Ibid., p. 53.

<sup>23</sup>Owens, Charles S., and Bass, Willard P., The American Indian High School Dropout in the Southwest, Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico, January, 1969.

<sup>24</sup>Selinger, Alphonse D., The American Indian High School Dropout: The Magnitude of the Problem, Northwest Regional Educational Laboratory, Portland, Oregon, September, 1968.

Idaho, Montana, North Dakota, Oregon, South Dakota, and Washington were covered by the Northwest Laboratory.

In the Northwest study a stratified random sample of 50 per cent of the eligible schools in each state was drawn. Schools had to be in those portions of the states of Oregon, Washington, Idaho, Montana, North Dakota, and South Dakota which were included in the Aberdeen, Billings, and Portland area jurisdiction for the Bureau of Indian Affairs. Forty schools were drawn as the samples of a total of seventy-one schools which qualified.

The total dropout percentage, grades nine through twelve, for the region was 48.<sup>25</sup> Indian females had a significantly higher dropout rate (52 per cent) than did the Indian males (43 per cent).

The study reveals that Oregon had the lowest dropout rate (29 per cent) followed by Idaho (34 per cent), Washington (39 per cent), Montana (42 per cent), North Dakota (52 per cent), and South Dakota (58 per cent).<sup>26</sup>

The Northwest study found that the highest percentage of school dropouts appear in the third year of high school (14 per cent).

The Southwest study showed that the total dropout rate for the region studied was 39 per cent.<sup>27</sup> The dropout rate was the same for

---

<sup>25</sup>Ibid., p. 137.

<sup>26</sup>Ibid., p. 137.

<sup>27</sup>Owens, op. cit., p. 4.

Indian females and Indian males. The dropout rates by type of school attended were 39 per cent from federal schools, 43 per cent from private schools, and 38 per cent from public schools.

Concerning the Northwest and Southwest studies, Coombs wrote:

It is seen then that the best current figure on the Indian dropout rate is now somewhat more than  $1\frac{1}{2}$  times that of the general population. Perhaps a more important fact is that it has declined 18 percentage points from the BIA's estimate made in 1959. The decline in the national dropout rate between 1959 and 1968 was from 37 to 26 per cent or 11 per cent. In the decade of the 1960's, therefore, the Indian dropout rate declined 7 percentage points more than did that of the general population.<sup>28</sup>

A research study conducted by Harkins in the Minneapolis area revealed that Indian high school students often seem to feel discriminated against by non-Indian students and feel that teachers are unsympathetic.<sup>29</sup> He found that some Indian students experience a general feeling of not being respected, and there is frequently the conviction that there is little value in completing high school. Indian students appear to emulate peers who have dropped out of high school.

In short the number of Indian high school students completing high school lags behind the national level. However, the percentage of Indian students finishing high school has risen considerably in

---

<sup>28</sup>Coomb's, Madison L., "The Indian Student Is Not Low Man on the Totem Pole," Journal of American Indian Education, Vol. 9:5, May, 1970.

<sup>29</sup>Harkins, Arthur, Indian Education in Minneapolis: An Interim Report, University of Minnesota, Minneapolis, Minnesota, 1969.

the last ten years.

### Higher Education of Indian Students

A major difficulty with American Indians in higher education has been the high attrition rate.

McNeely conducted the first nation-wide study of student failure in 25 institutions of higher learning in 1937.<sup>30</sup> He observed:

For the universities as a whole a gross mortality of 62.1 percent was found and a net mortality of 45.2 percent. In other words for every 100 students entering all the universities approximately 62 left the institutions on a gross basis and 45 on a net basis.<sup>31</sup>

He found that for the universities as a whole 33.8 per cent of the students left in the freshman year, 16.7 per cent in the sophomore year, 7.7 per cent in the junior year, and 3.9 per cent in the senior year. With regard to causes of student mortality, 18.4 per cent left because of dismissal for academic failure, 12.4 per cent left because of financial problems, and 12.2 per cent left because of miscellaneous reasons.

Iffert's study of the national dropout problem included 147

---

<sup>30</sup>McNeely, John H., College Student Mortality, Bulletin 1937, No. 11, Office of Education, United States Government Printing Office, 1938.

<sup>31</sup>Ibid., p. 104.

institutions of higher learning.<sup>32</sup> He wrote:

Based upon this sampling it appears that slightly less than 40 percent of the freshman class will remain at the institution of first enrollment to graduate four years later. An additional 20 percent will either graduate later from the first institution or will go to other institutions where they will graduate in four years or more. Thus about 6 out of 10 freshmen will eventually receive degrees.<sup>33</sup>

Concerning American Indians Havighurst found in 1970 that approximately 8,000 Indians were in college and about 25 per cent would graduate from college with a four-year degree.<sup>34</sup>

A study by Artichoker and Palmer attempted to determine and analyze the problems encountered by Indian students while enrolled in colleges and universities in South Dakota.<sup>35</sup> The authors used two instruments (Mooney Problem Check List and one devised by the authors) that were administered to a total of 72 Indian students from all of the four-year institutions in South Dakota in the spring of 1957.

Analysis of the data was accomplished through two procedures. The first procedure involved a comparison of the problems of Indians

---

<sup>32</sup>Iffert, Robert E., Retention and Withdrawal of College Students, Bulletin 1958, No. 1, Office of Education, United States Government Printing Office, 1957.

<sup>33</sup>Ibid., p. 100.

<sup>34</sup>Havighurst, Robert J., Education of Indian Children and Youth, University of Chicago, Chicago, Illinois, December, 1970, p. 39.

<sup>35</sup>Artichoker, John Jr., and Palmer, Neil N., The Sioux Indian Goes to College, State University of South Dakota, Vermillion, South Dakota, 1959.

with the problems of non-Indians. The second procedure involved dividing the Indian students into two categories based upon their ability or lack of ability to speak an Indian language.

Artichoker and Palmer found:

The one general and overriding finding of this study was that Indian students have more problems that are troublesome and serious than do non-Indian students. Among the special problems of the Indian student, the following may be mentioned as having the greatest significance: (1) poor academic training for college, but also in social studies and English; (2) insufficient monetary funds, especially for clothing and "spending money"; (3) inability to relate himself to the future, particularly as this involves his educational and vocational objectives; (4) concern about moral and religious questions; and (5) concern about family members.<sup>36</sup>

A study by Ludeman covered the records of 112 Indian students who had attended Southern State Teachers College in South Dakota over a period of 33 years.<sup>37</sup> Ludeman attempted to discover how long they had stayed in college, what was their average grade point, and what they were doing at the time the study was made.

Ludeman found:

The tenure of the Indian students tends to be short with 36 attending one quarter or less and nearly one-half of the total number attending one full school year of three quarters or less. The fact that the average scholarship of these short lived students was quite low probably accounts in major part for their brief college attendance.<sup>38</sup>

---

<sup>36</sup>Ibid., p. 33.

<sup>37</sup>Ludeman, W. W., "Indian Students in College," The Journal of Educational Sociology, Vol. 33:333-335, March, 1960.

<sup>38</sup>Ibid., p. 334.

Indian students who stayed in college beyond six quarters or two years gathered scholastic power and turned in good average grades.

In analyzing the Indian students in his study, Ludeman found that Indian students suffer from their limited backgrounds and show a great deal of dependency.

Ludeman stated, "When we can bring Indian youth into regular communities and into public high schools, then they will be provided with more orthodox backgrounds for making successful higher education careers."<sup>39</sup>

The follow-up records of these 112 Indian students showed that the former students who completed two years of college were engaged in many occupations, some of high responsibility. Those who stayed in college longest had the top positions in the field.

Gill studied the characteristics of Indian dropouts at Arizona State University.<sup>40</sup> Gill found that low grades were responsible for the majority of the dropouts and they carried more than the necessary units to qualify as full-time students. The Indian students gained scholastic power after the freshman year of college.

Regarding educational progress of Indians in college, Coombs concluded:

---

<sup>39</sup>Ibid., p. 335.

<sup>40</sup>Gill, George A., Select Characteristics of American Indian Dropout Students at Arizona State University, unpublished research paper, Tempe, Arizona, 1962.



The educational progress which Indian people are making is perhaps least satisfying with respect to college enrollment and college graduation. Educational deficits tend to be cumulative with older students. But even here there are grounds for satisfaction and again there is better information than was the case a year or so ago about Indian education beyond high school, vocational-technical as well as collegiate.<sup>41</sup>

In summary several universities have designed programs specifically to offset Indian student mortality. The quality and quantity of education the Indian receives in the universities will play a major role in determining the success of the Indians in assuming increased responsibility and management of their own affairs.

---

<sup>41</sup>Coombs, op. cit., p. 6.

## CHAPTER III

### PROCEDURES

The purpose of this study was to investigate selected characteristics that may be related to the successful and/or unsuccessful American Indian student enrolled at Montana State University. This chapter contains a description of the population, methods of collecting data, hypotheses, statistical methods, and summary.

#### Population

The population in this study consisted of 182 American Indian students who attended Montana State University during the five-year period from September, 1967 through June, 1972. Since this study was concerned with all Indian students enrolled one quarter or more at Montana State University during this period, no sampling technique was involved.

#### Methods of Collecting Data

The data for the variables in this study were obtained from the personal files of the Indian students maintained at the Center for Intercultural Programs, the Registrar's Office, and the Testing and Counseling Service.

The raw data for this study consisted of information on 16 variables as follows: (1) sex, (2) age, (3) blood quantum, (4) living

on or off the reservation, (5) type of high school from which the Indians graduated (public, church, or federal), (6) home reservation, (7) bilingualism, (8) field of study, (9) number of living children in family, (10) MSU American Indian Club attendance, (11) marital status, (12) number of credits carried, (13) results of American Council on Education Psychological Examination for College Freshmen (ACE), (14) results of Cooperative School and College Ability Tests (SCAT), (15) results of Ohio State University Psychological Test (Ohio), and (16) high school grade point average.

#### Hypotheses.

For the purpose of this study, the null hypotheses were as follows:

1. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to sex.
2. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to age.
3. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to blood quantum.

4. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to living on or off the reservation.

5. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to type of high school from which the Indians graduated (public, church, or federal).

6. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to their home reservation.

7. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to being bilingual.

8. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to field of study.

9. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to the number of children in the family.

10. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to Indian Club attendance.

11. There are no significant differences between successful and

unsuccessful Indian students enrolled at Montana State University with respect to marital status.

12. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to the number of credits carried.

13. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to their scores on the American Council on Education Psychological Examination for College Freshmen (ACE).

14. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to their scores on the Cooperative School and College Ability Tests (SCAT).

15. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to their scores on the Ohio State University Psychological Test (Ohio).

16. There are no significant differences between successful and unsuccessful Indian students enrolled at Montana State University with respect to high school grade point average.

## Statistical Methods

In this study the chi square was used to test hypotheses one through eight and hypotheses ten and eleven. Chi square is a non-parametric statistic and deals with data that consist of nominal classification type of measurement. Thus, this statistic was appropriate for testing the above mentioned hypotheses. The statistical difference was considered significant at the .05 level of confidence. Hypotheses nine and twelve through sixteen were tested by using the t-test for uncorrelated data. Again, the .05 level of significance was considered as statistically significant.

In general, the following steps were used to test the hypotheses:

1. The null hypothesis was stated.
2. The level of significance was selected. The level of significance selected for this study was .05.
3. The test statistic to be used was stated.
4. The critical value was stated. These values were found by using the appropriate tables for the critical values of chi square and of t and entering at the specific level of significance and the appropriate number of degrees of freedom.
5. The statistic was computed.
6. The null hypothesis was retained or rejected by comparing the calculated values of the statistics to the critical value stated.

The null hypothesis and the alternate hypothesis for the 16 variables used in this study were  $H_0: \mu_s = \mu_u$  and  $H_1: \mu_s \neq \mu_u$  respectively.

All data were posted on the Fortram Coding Form and taken to the Montana State University Computing Center where the data were key punched and verified and the appropriate program was run on the computer.

#### Summary

Past studies have indicated the Indian students encounter vast assortments of problems while pursuing their university education. This study was conducted to investigate selected characteristics that may be related to the successful and/or unsuccessful American Indian student enrolled at Montana State University. The population consisted of 182 Indian students who attended Montana State University from September, 1967 through June, 1972. Sixteen variables were used in this study. The data were obtained from the personal files of the students in the Center for Intercultural Programs, the Testing and Counseling Service, and the Registrar's Office. The null hypothesis and the alternative hypothesis were used to determine if the null hypothesis was to be rejected or retained. The level of significance was at the .05 level of confidence.

















































































































































