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AMERICAN INDIAN STUDENTS IN HIGHER EDUCATION: FACTORS RELATED TO THEIR UNDERGRADUATE COLLEGE ENTRANCE

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AMERICAN INDIAN STUDENTS IN HIGHER EDUCATION: FACTORS RELATED TO THEIR UNDERGRADUATE COLLEGE ENTRANCE

by

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As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Mary Jo Tippeconnic Fox

entitled AMERICAN INDIAN STUDENTS IN HIGHER EDUCATION: FACTORS RELATED TO THEIR UNDERGRADUATE COLLEGE ENTRANCE

and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

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Date

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director

Date March 29, 1982

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SIGNED: Mary Jo Tippeconnic Fox

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Although many people contributed to the completion of this study, the author bears the responsibility for the dissertation.

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ABSTRACT

The purposes of this study were to identify selected characteristics of American Indian entering freshman students and to identify selected factors related to the increasing number entering two- or four-year colleges or universities. In addition, the identified characteristics and factors were compared with a sample of Mexican American/Chicanos and in selected areas with other white/ Caucasians to determine similarities and differences between the three groups. Six research questions were formulated and examined to achieve the purposes of this study. The data were extracted from the annual freshmen surveys for fall 1966, 1972, and 1978 of the Cooperative Institutional Research Project (CIRP), and the <u>National Longitudinal Study of the High School Class of 1972</u> (NLS).

The variables selected and analyzed from the annual freshmen surveys were sex, age, high-school rank, concern about finances, enrollment status, need for academic help, probable major field of study, probable careers, highest degree planned, type of institutions attended, control of institutions attended, regions of institutions attended, and reasons for selecting a particular institution. NLS variables used were community orientation, family orientation, work orientation, self-concept, locus of control, socioeconomic status, sources of planned and used financial aid, and information on continuing college students. The statistical procedures used to analyze the data were frequency counts, percentages, and the t-test of significance. The data indicated that changes had occurred between 1966 and 1978 on selected characteristics of American Indian entering freshman students. The comparisons of American Indian with Mexican American/Chicano and/or white/ Caucasian entering freshman students showed more similarities than differences on selected characteristics, particularly in 1978. The findings showed community orientation, family orientation, and work orientation were not associated with entrance into college for the three groups studied. Whereas, self-concept, locus of control, and socioeconomic status were associated with entrance into college for the three groups. Sources of financial aid varied for each group, and at least 70 percent of all students from each group continued in college. Further study is recommended on American Indians at all levels of higher education because data is not plentiful.

CHAPTER 1

INTRODUCTION

American Indian entrance into higher education increased during the past two decades. Since 1960, an increasing number of American Indians have pursued degree programs and vocational training to better prepare themselves for life on and off reservations. "Crude" figures support an estimate of 2,000 American Indian students attending college and other postsecondary institutions in 1957 (Fuchs and Havighurst 1973, p. 260). A 1977 Department of Health, Education, and Welfare report estimated 33,000 American Indian students were attending community colleges, junior colleges, and four-year colleges and universitites (Havighurst 1981, p. 330). Also, there are many American Indians pursuing vocational education at other postsecondary institutions, such as technical institutions or area vocational schools.

During the 1960s, enrollment by minority groups, including American Indians, substantially increased. In large measure this was a result of the civil rights movement, and increased white consciousness of historic inequities, and of racial prejudice. Yet, American Indians, black Americans, Puerto Ricans, and Mexican Americans were still substantially underrepresented on American campuses at the beginning of 1970. In 1970, the most intense pressure for expanded opportunities for higher education came from these four groups. They had become more vocal, visible, impatient, and militant (Crossland 1971, p. 4).

A major reason for the increased number of American Indians entering college has been the increased number of Indian high-school graduates and the larger proportion of Indian high-school graduates entering college. Fuchs and Havighurst (1973, pp. 260, 261) estimated three thousand Indian high-school graduates entered college or some other form of postsecondary education in 1970. This indicated approximately 18 percent of an age cohort entered college, compared to 40 percent of the age group for all American youth; American Indian high-school graduates were estimated at ten thousand in 1970. This was 55 percent of the approximately eighteen thousand Indians and Eskimos who reached 18 in 1970 and an 80 percent increase in the age group from which these students came. A Department of Health, Education, and Welfare (DHEW) report (A Study of Selected Socioeconomic Characteristics of Ethnic Minorities Based on the 1970 Census 1974, p. 38) noted that the percent of American Indian high-school graduates had increased. Thirteen percent of all rural Indians 14 years of age and over were high-school graduates in 1960 compared to 23 percent in 1970. Twenty-eight percent of all urban Indians were high-school graduates in 1960 compared to 42 percent in 1970.

The Condition of Education 1981 edition (Dearman and Plisko 1981, p. 114) reported 14,871 American Indians as part of the 1978 graduating class of public secondary schools in the total 50 states and the District of Columbia. This accounted for 1 percent of the total graduating class of 1978 in public secondary schools. Of course, these statistics do not include American Indian students graduating from federal and private schools.

Another reason for the increase in college attendance by American Indians was the availability of money to help finance higher education. More money became available from the federal government and some tribal councils. The Bureau of Indian Affairs (BIA), for instance, increased the number of scholarship grants awarded to Indians from 3,432 in 1969 to 20,000 in fiscal year 1981. The amount of scholarship grant award also increased from an average of $868 per student in 1969 to $1,800 per student in fiscal year 1981 (Fuchs and Havighurst 1973, p. 261, Catalog of Federal Domestic Assistance 1981, p. 434). In addition, fellowships for Indians were available on a competitive basis from the Office of Indian Education, Department of Education. Individuals could receive them if they were studying for a graduate or professional degree in medicine, law, education, and related fields or leading to an undergraduate degree in engineering, business administration, natural resources, and related fields. These fellowships averaged $5,000 per student with 223 awards in fiscal year 1980, and 213 awards estimated for fiscal year 1981 (Catalog of Federal Domestic Assistance 1981, pp. 1111, 1112). Of course, American Indian students also were eligible for regular financial aid through educational institutions and various private organizations.

Indian studies programs established at colleges and universities during the 1960s and 1970s also attracted some American Indians to higher education. A 1974 survey conducted by the Western Interstate Commission on Higher Education (WICHE) reported that 100 institutions of higher education, located in 23 states, offered course work designed to meet this special interest of American Indian students (Locke 1974). American Indian students were actively recruited by these programs as well as other programs within institutions of higher education.

Another reason for increased college attendance by American Indians was the development of tribally-controlled community colleges. Currently there are 17 tribally-controlled community colleges located on or near reservations or large populations of Indians. These institutions were established to reflect self-determination and the opportunity to bring about educational change based on local concerns and needs by providing specialized higher education to segments of the Indian population traditionally neglected.

Clearly, American Indians made significant improvement during the past two decades in the number of students completing high school and entering some form of postsecondary education. Further information about these students may be of value in determining future policy in this area. The researcher conceived this study of those who attended either two- or four-year colleges or universities with this in mind.

Background

The 1980 Census of Population Supplementary Reports (Race of the Population by States: 1980, 1981, pp. 1, 2, 6) reported a provisional population total for American Indians, Eskimos, and Aleuts as 1,418,195. This total included 1,361,869 American Indians, 42,149 Eskimos, and 14,177 Aleuts. The American Indian total of 1,361,869 represented an increase of 569,000 or 72 percent over 1970. The 1980 increase resulted because of natural increases and overall improvements in census procedures, including enumeration procedures on American Indian reservations and the use of self-identification to obtain the race data.

This report also indicated that one-half of the American Indian population resided in five states: California, Oklahoma, Arizona, New Mexico, and North Carolina. The American Indian population as a proportion of the total population in 1980 was highest in New Mexico with 8.0 percent and South Dakota with 6.5 percent.

Data on Eskimos and Aleuts in all states was collected separately for the first time for the 1980 census. Alaska has the largest population of Eskimos and Aleuts, 81 percent and 57 percent, respectively. California and Washington were the only other two states with 1,000 or more Eskimos or Aleuts.

American Indians, Eskimos, and Aleuts comprised 0.6 percent of the United States population in 1980, and the median age of this group was 23.0 years (<u>Age, Sex, Race, and Spanish Origin of the Population by Regions, Divisions, and States: 1980</u>, 1981, pp. 1, 2). For the 1980 census, American Indians, Eskimos, and Aleuts included persons who classified themselves as such or persons who did not report themselves in one of the specific race categories but reported the name of an Indian tribe instead.

The diverse population of American Indians is well illustrated by large numbers of tribes and the small numbers on reservations. For example, the <u>American Indian Policy Review Commission Final Report</u> (1977, pp. 90, 91) stated that a minority of 28 percent of all Indians live on reservations within the United States. A total of 289 tribes and bands live on 268 "federally recognized" reservations or otherwise defined "trust areas" in 16 states. There are ten "state recognized" reservations that receive some federal assistance, and two additional tribes are recognized in a limited fashion. In addition, there are 24 state Indian reservations, 219 native Alaskan villages or reservations, and even some urban reservations such as Agua Caliente in Palm Springs, California. An estimated 32,000 Indians exist without federal or state recognition. Some belong to tribes never recognized by the federal government; others to tribes whose federal status was terminated by legislation during the 1950s and early 1960s. More than 46 percent of all Indians are city dwellers. They may be members of a state or federally recognized tribe, a community within its own reservation or land, or members of a terminated tribe.

Socioeconomic conditions of American Indians, as a whole, are poor. The American Indian Policy Review Commission Final Report (1977, p. 90) stated

> Today, available statistics on Indians in the United States continue to paint a picture of widespread deprivation unequalled by any other United States subgroup. Whether men or women, living in the city of country, Indians in the United States suffer from inadequate education and relatively poor health, low incomes, poor housing, and sanitary conditions generally regarded as unacceptable.

A great and growing desire exists among many Indian people and most tribes to develop leadership resources. Leadership resources are needed for improved socioeconomic conditions and self-sufficiency among American Indians. The opportunity for assuming control over federal programs by tribes and tribal organizations was the intended purpose of the Indian Self-Determination and Education Assistance Act of 1975 (PL. 93-638). One obstacle to tribal control of federal programs has been the lack of technical and administrative skills. Many of the skills needed require educationally trained Indian people at the collegiate level.

Leadership resources are also needed for the management and development of natural resources on reservations. Pressure to develop natural resources on reservations is evident, and American Indians need expertise to manage and preserve tribal resources for the betterment of the tribe.

Lack of available expertise among American Indian people has been one barrier to socioeconomic growth, self-determination, and self-sufficiency. Indians with higher education can help provide the competence needed to improve socioeconomic conditions and increase tribal control of services and resources enabling American Indians to determine their own destiny. American Indians with higher education also increase their option for employment on and off reservations. Information and/or implications from this study may be helpful to Indian leaders and others designing strategies for increasing enrollments of American Indians in higher education.

Purpose of Study

The purposes of this study were to identify selected characteristics of American Indian entering freshman students and to identify selected factors related to the increasing number entering two- or four-year colleges or universities. In addition, the identified characteristics and factors were compared with a sample of Mexican American/Chicanos and, in selected areas, with other white/ Caucasians to determine similarities and differences between the three groups. Mexican American/Chicanos were chosen as one minority group because they, like American Indians, have had limited opportunities to participate in higher education in the past, and both groups have received increased attention during the past two decades. White/ Caucasians were chosen because of their dominant role in American society, and because their attendance patterns set the mode and provide a standard within the United States.

Research Questions

In this study, the researcher addressed the following questions about American Indians entering college. The research questions fall into six groups.

1. What are the background characteristics of American Indian entering freshman students? Have these characteristics changed for the three time periods 1966, 1972, and 1978?
    a. What is the sex of American Indian entering freshman students?
    b. What is the age of American Indian entering freshman students?
    c. How did American Indian students rank academically in their high-school graduating classes in 1972 and 1978?
    d. Did American Indian entering freshman students indicate a concern about their ability to finance their college education?
    e. Did the American Indian entering freshmen enroll as full-time or part-time students in 1972 and 1978?
    f. Did American Indian entering freshman students indicate a need for special help in English, reading, mathematics, social science, science, or foreign language in 1972 and 1978?
2. Are the background characteristics identified in question 1 the same or different for Mexican American/Chicano or white/Caucasian entering freshman students?

3. Have there been changes in career goals of American Indian students who entered college for selected years during the period 1966 through 1978?

    a. What are the "probable major fields of study" initially selected by American Indian entering freshman students?

    b. What are the "probable careers" initially selected by American Indian entering freshman students?

    c. What is the highest academic degree which American Indian entering freshman students intended to obtain in 1972 and 1978?

    d. What type of higher education institutions did American Indian entering freshman students attended in 1966, 1972, and 1978?

    e. Did American Indian entering freshman students attend public or private higher education institutions in 1966, 1972, and 1978?

    f. In what regions are the institutions located which American Indian entering freshman students attended in 1966, 1972, and 1978?

    g. What reasons did American Indian entering freshman students indicate were very important to their decision to attend a particular institution in 1972, and 1978?

4. Are the changes identified in question 3 the same or different for Mexican American/Chicano and white/Caucasian entering freshman students?

5. What factors are related to the entrance into college by American Indian students?

    a. Does any specific factor descriptive of "work orientation" appear to be associated with entrance into college by American Indian students?

    b. Does any specific factor descriptive of "community orientation" appear to be associated with entrance into college by American Indian students?

    c. Does any specific factor descriptive of "family orientation" appear to be associated with entrance into college by American Indian students?

    d. Does any specific factor descriptive of "self-concept" appear to be associated with entrance into college by American Indian students?

    e. Does any specific factor descriptive of "locus of control" appear to be associated with entrance into college by American Indian students?

f. Does any specific factor descriptive of "socioeconomic status" appear to be associated with entrance into college by American Indian students?

g. From what sources did American Indian students plan to finance their college education?

h. How did American Indian students who entered college finance their first year of education?

i. How many of the American Indian students who entered a university, two- or four-year college continued their education beyond the first year?

6. Are the factors identified in question 5 the same or different for Mexican American/Chicano and white/Caucasian students?

Assumptions of the Study

The basic assumptions of this study are:

1. The number of American Indians attending college has increased in the last 20 years and will continue to increase.

2. The number of American Indians involved in this study made it possible to draw limited conclusions.
3. Students identified as American Indians, Mexican American/Chicanos, or white/Caucasians were truthful about their racial/ethnic backgrounds.
4. The responses to the National Longitudinal Study of the High School Class of 1972 (NLS) and the Cooperative Institutional Research Program (CIRP) questionnaires were truthful and accurate in answering the relevant questionnaires.

Limitations of the Study

The limitations applied are:

1. This study was limited to students attending two- or four-year colleges or universities. Vocational or technical school attenders were not studied.
2. The CIRP data on entering freshman students was limited to three time periods: 1966, 1972, and 1978. The data for Mexican American/Chicanos was limited to 1972 and 1978.

3. The NLS data on the sample of Mexican American/ Chicanos and white/Caucasians was limited to the first follow-up, October 1973.
4. The NLS data on American Indians was limited to those attending two- or four-year colleges or universities full-time during the time period 1972 to 1976.
5. This study was limited to the variables chosen and questions asked by the NLS and CIRP studies about these variables.
6. This study contains the usual statistical limitations inherent in using and generalizing from a sample.

Definition of Terms

Definitions for this study were taken from the NLS and CIRP studies. They are as follows:

1. American Indian: Individuals who identified themselves as American Indians on the CIRP and NLS questionnaires.
2. College: Any two- or four-year institution that grants a degree, leaving out vocational and technical institutions.
3. Community Orientation: "A computed index derived from the individual's response to goal-

orientation questions relating to an interest and involvement in community improvement in the base-year ('72), first ('73), second ('74), and third ('76) follow-up questionnaires" (Levinsohn et al., 1978, p. J. 2).

4. Family Orientation: "A computed index derived from the individual's responses to goal-orientation questions relating to an interest and involvement in marriage and family life in the base-year ('72), first ('73), second ('74), and third ('76) follow-up questionnaires" (Levinsohn et al., 1978, p. J. 3).
5. Locus of Control: "A computed index derived from the individual's responses to questions relating to internal versus external control of environmental factors in the base-year ('72), first ('73), second ('74), and third ('76) follow-up questionnaires" (Levinsohn et al., 1978, p. J. 9).
6. Mexican American/Chicano: Individuals who identified themselves as Mexican American/ Chicano on the CIRP and NLS questionnaires.
7. Self-Concept: "A computed index derived from the individual's responses to questions

relating to ego-strength in the base-year ('72), first ('73), second ('74), and third ('76) follow-up questionnaires" (Levinsohn et al., 1978, p. J. 3).

8. Socioeconomic Status: "The raw score resulting from factor analysis of five components: father's education, mother's education, parent's income, father's occupation, and household items from the first follow-up and/or base-year questionnaires" (Levinsohn et al., 1978, p. J. 14).

9. White/Caucasian: Individuals who identified themselves as white/Caucasian on the CIRP and NLS questionnaires.

10. Work Orientation: "A computed index derived from the individual's responses to questions relating to work orientation in the base-year ('72), first ('73), second ('74), and third ('76) follow-up questionnaires" (Levinsohn et al., 1978, p. J. 19).

This study is divided into five chapters. Chapter 1 provides an introduction to the American Indian college student, the purpose of the study, background, research questions, assumptions of the study, limitations of the study, and definitions of terms. Chapter 2 contains a review of literature; Chapter 3 provides research procedures, Chapter 4 provides the findings; and Chapter 5 provides the summary, conclusions, and recommendations.

CHAPTER 2

LITERATURE REVIEW

American Indians have entered higher-education institutions in increasing numbers since 1960. Many American Indians have realized the importance of higher education to their struggle for justice, survival, and a better life. Literature related to the entrance of American Indians into higher education is presented in this chapter. Chapter Two is divided into a discussion of related material on selected characteristics of American Indian college students and the factors of self-concept, locus of control, and socioeconomic status of Indian college students.

American Indian College Students

American Indian college students are as diverse as the tribes they represent. There is no typical Indian college student. Indian students come from three main areas including reservations, rural native communities in various degrees of isolation from the mainstream society, and from urban areas (Medicine 1978, p. 24). Yet commonalities exist, and these are explored through the various studies on American Indians in higher education.

Sex and Age

Artichoker and Palmer (1959, p. 8) conducted a study of Indian students attending South Dakota colleges. Their study revealed more male than female (three to one) Indian college students. The female college students were of ages 17 to 24, but the male students ranged in age upward to 45 years with almost 20 percent being over 27 years of age. McGrath et al., (1962, p. 156) found their sample of Indian college students in the Southwest as 55.3 percent male and 44.7 percent female. Nearly 3,000 Indians received BIA scholarship grants in 1967-68. Of this number, 2,776 were undergraduate students, 22 were graduate students, and the remainder were unknown. Males comprised 53.8 percent of all Indian students receiving BIA grants, and females comprised 46.2 percent. Females comprised 46.0 percent of all undergraduate students and males 54.0 percent (Aurbach, Fuchs, and Macgregor 1970, p. 139). In their study of Indian education, Fuchs, and Havighurst (1973, p. 261) reported the rates of men to women among postsecondary students as approximately 55 to 45 percent.

A more recent study by Richards (1978, p. 124) of Indian college students in Florida reported more males than females with an average age of 28.3 years. The female respondents tended to be older than male respondents. Richards (1978, p. 128) also found the respondents under 25 and over 34 had more problems with inadequate high-school preparation, poor study habits, and inadequate vocational counseling than respondents within this age range. A study of American Indians in Michigan colleges and universities (Vocational Preparation and Race in Michigan Higher Education 1967, p. 28) showed, in general, the proportion of male Indian students (64.8 percent) was higher than the proportion of women (35.2 percent). Fifty-four percent of the Indian students were concentrated under 22 years, the prime college age. Chavers (1979, p. 93) reported the average age of Bacone College (a predominately Indian college) students in spring 1979 was 23.1 years. He also stated that the phenomenon of larger numbers of older Indian students has been partly an artifact of overagedness and Indian adults who previously went through the BIA's relocation program. The relocation program moved reservation Indians to urban areas and provided them with mostly blue-collar training. The number of former relocatees who have attended college is unknown, but this pool of college students has provided an "artificial" increase in the total number of Indian college students in the 1970s. Chavers predicted a decrease in this pool within five years.

Other studies have indicated more female than male Indian college students of various ages with many Indian students in the age range of the general undergraduate college population. In a study of Indian students' values and attitudes, Boutwell et al., (1972, p. 7) found his voluntary sample of Indian students composed of 40 percent male and 60 percent females. The mean age was 20 years.

Persistence of American Indians at two New Mexico universities was studied by Patton (1972, p. 102). The findings of the study indicated a larger percentage of females among American Indian students than among non-Indians with Indian female students more apt to persist in college than the Indian male student. Another finding was that American Indians enrolled in college after 19 years of age or older were less apt to persist than those enrolled at an earlier age. A Bureau of Indian Affairs study of students participating in its higher education program (Higher Education Evaluation: Student Characteristics and Opinions 1973, pp. 3, 9) reported 77 percent of the 2,736 respondents were in the 18- to 25-year-old age group, while 26 percent were 26 years old or older. Women comprised 52 percent of the respondents and men 48 percent. A 1974 survey of Indian students in 12 Minnesota private colleges (Indian Students in Minnesota's Private Colleges 1974, p. 1) found 52 percent of this sample were women, compared to 48 percent who were men. More female (53.5 percent) Indian and/or Alaskan natives were reported to have entered academic programs in three Alaskan higher education institutions during 1963-64, 1968-69, and 1971-72 (Kohout and Kleinfeld 1974, p. 14). The Digest of Education Statistics 1981 (Grant and Eiden 1981, p. 103) reported a total enrollment in institutions of higher education of American Indian/Alaskan Natives in fall 1978 as 77,874 with 52.7 percent women and 47.3 percent men.

The sex and age of the American Indian college student was shown in the literature to be ambiguous. There were just as many studies that indicated more male Indian college students as there were studies that indicated more female Indian college students. Reports on the ages of the Indian college student were also ambiguous. There were studies that revealed Indian college students as older than the general college population and studies that showed Indian college students within the age range of the general undergraduate population. Thus, the literature has revealed uncertainty about the sex and age of the typical American Indian in higher education.

Finances

Entrance into higher education and persistence therein by American Indians has depended largely upon the availability of financial assistance. Indian parents have often been unable to finance a college education for their children so that prospective Indian students have been forced to seek financial aid elsewhere or forego a college education.

South Dakota Indian college students mentioned their most common source of funds as tribal or federal loans, South Dakota Indian scholarships, parents, and tribal or federal grants. Their parents were usually able to bear only a part of the cost of college. The study concluded that finances, along with living conditions and employment, was one of the most serious concerns of Indian college students in South Dakota. Insufficient monetary funds, especially for clothing and spending money were a serious problem area for these Indian college students (Artichoker and Palmer 1959, pp. 11, 12, 33).

Two studies (Bass 1969; Selinger 1968) were conducted on the post-high-school training and employment experiences of the 1962 Indian high school graduates in the Southwest and Northwest. Of the American Indian students who entered post-high-school programs, inadequate financial resources was one important reason given for dropping out in both studies (Aurbach, Fuchs, and Macgregor, 1970, p. 99).

Patton (1972, p. 102) found a much larger percentage of American Indian students than non-Indians received financial assistance at two New Mexico universities. Boutwell et al., (1972, pp. 3, 4) compared Indian and non-Indian college students and presented their estimation of the major and minor problems Indians had in pursuing their academic goals. The results revealed money difficulties were more of a major problem to Indians than non-Indian students. The BIA higher education evaluation (Higher Education Evaluation: Student Characteristics and Opinions, 1973, pp. 56, 57) showed 75 percent of their 2,736 respondents indicated no parental financial support. Sixty-seven percent of the respondents estimated annual income of parents as less than $7,000.

A survey of American Indian students in Minnesota's private colleges (Indian Students in Minnesota's Private Colleges 1974, p. 3) reported 40 percent of the students indicated lack of financial support as a major problem. They experienced the greatest difficulty in meeting expenses of transportation, tuition/fees, and social activities. Sources of financial support were tribal/BIA grants (70 percent), part-time jobs/work study (57 percent), college scholarships (60 percent), state Indian scholarship grants (34 percent), EOG (23 percent), loans (23 percent), and family (20 percent).

Native American students were interviewed at the University of California, Davis, to determine problems encountered (Tesche et al., 1974, p. 6). The most serious problem mentioned was obtaining financial assistance. Basic concerns were with the mechanics of applying and receiving financial aid, especially BIA funds, and the low level of financial support which caused severe hardships.

Noon (1975) found Navajo Totatchi High School graduates in college ranked lack of money as one of their most serious problems. Buef (1976, p. 76) from her study of Indian students from three Western institutions cited financial difficulty as their number-one problem. Scholarships were often limited to tuition, and the students had difficulty paying for books and meeting living expenses. This problem was further complicated because Indian students often had families of their own to support. Indian college students in Florida were studied by Richards (1978, p. 126-128, 133), and he concluded that inadequate financial support was their number-one problem. The Indian students relied heavily on personal or family earnings and savings, public support appeared minimal, and veteran's benefits were utilized to the greater extent. BIA assistance was received by 10 out of 59 students who were tribal members, and only 9 had tribal aid. Difficult financial problems confronted Indian students and often forced them to withdraw from college.

Finances were shown repeatedly to be of prime importance to the majority of American Indian college students. Parental support, in general, was nonexistent or minimal, and many Indian college students were dependent upon financial assistance to enter and persist in higher education.

Academic Preparation

When Indians enter college, they often find themselves inadequately prepared academically to deal with college work. Language also may be a handicap to many Indian students. In 1969, on tests of academic achievement, many Indians graduated from high school about two years behind the average non-Indian in the United States (Indian Education: A National Tragedy--A National Challenge 1969, p. 84).

Artichoker and Palmer (1959, p. 33) found Indian college students had more academic problems that were troublesome and serious than did non-Indian students. Among the special problems was poor academic training for college, especially in the area of mathematics, science, social studies, and English. In McGrath et al., (1962, p. 204), Indians in school chose English, math, and science as difficult areas of academic study. Approximately 30 percent of the Indian students listed insufficient background as the cause of their academic difficulty. Academic difficulty was cited as the second major problem for Indian college students (Buef 1976, p. 76) in three Western institutions of higher education. These Indian students felt they had been inadequately prepared for college, and language was still difficult for some.

Seventy Indian students in Minnesota's private colleges in 1974 (Indian Students in Minnesota's Private Colleges 1974, pp. 3, 7) cited lack of preparation in high school (40 percent) and poor study habits (50 percent) as major problems in college. Special assistance in preparing for college was given 17 percent of the Indian students.

Bass and Tonjes (1970, p. 6) synthesized three studies on American Indian high-school students in the Southwest. A universal problem hindering or defeating the Indian student in the Southwest in postsecondary pursuits was the language handicap. A deficiency existed in the basic communication skills of speaking, listening, reading, and writing. The authors recommended better academic preparation and orientation for college-bound students with more intensive counseling and tutoring once in college.

The survey of BIA higher-education grantees (Higher Education Evaluation: Student Characteristics and Opinions 1973, p. 4) reported 67 percent of their respondents indicated the biggest problem experienced in college was inadequate high-school preparation that often resulted in poor study habits and lack of motivation to study. Noon (1975) also found lack of motivation to study, poor study habits, lack of high-school preparation, and poor English skills ranked by Navajo college students as their four most serious problems.

Basic study-skill programs, remedial courses in mathematics, English, writing, and reading comprehension, individual tutoring, and personal and financial counseling are essential support services needed to seek and attract Indian students to colleges according to Panitz (1976, p. 66). He concluded that these services needed to be well planned and staffed and not provided on an ad hoc basis. These conclusions were based on an assessment of needs of Indian students in Minnesota.

A more current study by Richards (1978, p. 128) reported 30 percent of the Indian students in Florida higher education mentioned poor study habits and inadequate high-school preparation as problems.

Inadequate academic preparation for college, especially in mathematics, science, social studies, and English, has been cited in the literature as a major cause of academic difficulties for many American Indian students. Language was also shown as a handicap for many Indian college students. Inadequate academic preparation has sometimes also resulted in poor study habits and lack of motivation to study. Recommendations included better academic preparation and orientation for college-bound Indian students, basic study skill programs, remedial courses, and personal and financial counseling for American Indian students attending college.

High-School Rank

The rank of Indian college students in their high-school class has been examined in several studies.

McGrath et al., (1962, pp. 169, 267) found Indian college students were more likely to come from the middle third of their high-school graduating classes than non-Indians and less likely to come from the upper or lower one-third than the non-Indian. Yet, the study concluded that there does not appear to be as high a relationship between high-school grades and college grades as had been shown in studies of non-Indians. The authors stated that rank in high-school graduating class should not be used as a major predictor of college success for Indians at that time. The evidence indicated that it was those Indian students in the middle third of their high-school classes who seem to have had the most difficulty with college grades. Indians who ranked from the upper middle to top third of their high-school classes were more apt to persist in college than Indians who ranked from the lower middle downward.

Patton (1972, p. 102) studied persistence of American Indian students at two New Mexico universities, and he reported high-school rank related to persistence of Indian students.

A survey of Laguna-Acoma high-school graduates from 1964 through 1974 (Munro 1978, pp. 1, 2) sought to determine who earned bachelor degrees. It was found that of the 62 students who had earned degrees, six were valedictorians of their high-school classes, five were salutatorians, 37 were ranked in the top ten, and the remaining 14 represented ranks through fifty-first.

The studies reviewed on American Indian college students and high-school rank were not conclusive regarding importance of rank in class. McGrath et al., (1962, pp. 169, 267) found Indian college students more likely to come from the middle third of their high-school graduating classes than non-Indians. There did not appear to be a relationship between high-school grades and college grades, and rank at that time was not a major predictor of college success for American Indian college students. Yet, Patton (1972, p. 102) reported high-school rank was related to persistence of Indian college students, and Munro (1978, pp. 1, 2) found 48 of the 62 Laguna-Acoma Indian high-school graduates who earned degrees ranked in the top ten of their graduating high-school classes.

College Selection

Few studies have addressed the reason why American Indian students attend a particular institution. The

Indian students who attended Minnesota's private colleges in 1974 (Indian Students in Minnesota's Private Colleges 1974, pp. 2, 3) indicated they learned about their college from college recruiters (23 percent), friends or relatives (17 percent), high-school teacher or counselor (14 percent), and college promotional information (11 percent). These same students were attracted to the college they attended by other Indian students, Indian studies programs, Indian faculty and/or staff, high academic standards, a good broad program of studies, or school's reputation as "outstanding," a good Indian coordinator/ counselor, adequate financial assistance, Indian club, emergency financial assistance, small colleges, and good counseling. American Indian students indicated that they selected and attended a particular college for a variety of reasons. Yet, a major reason cited in the studies reviewed was the presence of other Indian students on campus. Findings of the BIA higher education program (Higher Education Evaluation: Student Characteristics and Opinions 1973, pp. 4, 29) showed that of their 2,736 respondents 61 percent selected institutions with large numbers of Indian students present on campus.

Institutions

American Indians have attended a variety of higher-education institutions. In 1976, Indian students were concentrated in the Southwest, with 48.0 percent followed by the South Central region with 19.4 percent, the Northwest region with 15.3 percent, and the North Central region with 12.4 percent. The Southeast region had 4.4 percent, and the Northeast had 0.5 percent (Chavers 1979, p. 86).

McGrath et al., (1962, p. 64) reported in the Southwest, Indian students in the study were more likely to attend large state universities. Arizona State College (now Northern Arizona University), Arizona State University, Brigham Young University, Fort Lewis A & M, and the University of New Mexico were identified as institutions with the largest enrollments of American Indians within their study area. Of the reported 210 American Indians in Michigan institutions of higher education in the fall of 1966, 129 attended state colleges and universities, 48 attended community colleges, 22 attended church-affiliated colleges, and 11 attended business and technical institutions (Vocational Preparation and Race in Michigan Higher Education 1967, p. 5).

The sample colleges used in the study of Alaskan natives (Kohout and Kleinfeld 1974, p. 4) showed 39 percent of the entering native students in 1971-72 enrolled at the University of Alaska at Fairbanks, a state-supported school, 13 percent enrolled at Alaska Methodist University, a small four-year private institution, and 11 percent enrolled in Sheldon Jackson College, a small, private two-year college.

BIA evaluation of grantees in their higher education program showed 80 percent of their respondents attended public colleges or universities, and 20 percent attended private colleges or universities (Higher Education Evaluation: Student Characteristics and Opinion 1973, p. 28).

During the period of 1966 to 1970, the University of Alaska, Northern Arizona University, Fort Lewis College, University of New Mexico, Phoenix Community College, Pembroke State University, University of Montana, Northern Montana College, Central Washington State College, Northeastern State College (now Northeastern State University) of Oklahoma, Brigham Young University, and Navajo Community College had 50 or more Indian students (Havighurst 1981, p. 331). Total enrollment of American Indian/Alaskan Natives in institutions of higher education in fall 1978 was 77,874 with 68,449 attending public institutions. Of the 68,449 American Indian/Alaskan Natives, 9,739 were enrolled in universities, 17,447 in other four-year institutions, and 41,263 in two-year institutions. Private institutions enrolled 9,425 American Indian/Alaskan Natives with 2,266 enrolled in universities, 5,541 in other four-year institutions, and 1,618 in two-year institutions (Grant and Eiden 1981, p. 101).

The literature has indicated that American Indian college students attend a variety of higher-education institutions in various regions of the United States. Yet, in general, American Indian college students have been concentrated in the Southwest at publicly-supported, two-year institutions.

Classification/Enrollment Status

American Indians in higher education usually attend full-time with most of them classified as freshmen or sophomores. The completion rate for entering Indian college freshmen is about 15 percent (Chavers 1979, p. 96), and full-time attendance is often a requirement of scholarships and grants held by Indian students.

Artichoker and Palmer (1959, p. 8) found almost one-half of their sample of Indian students in their first year of college with 20 percent in their second year, and the remainder were divided evenly between third and fourth year. McGrath et al., (1962, pp. 192, 266) reported one-half of their Indians in school as freshmen, 18.1 percent sophomores, 13.4 percent juniors, 7.2 percent seniors, 11.1 percent graduated, and 0.5 as special. Sixty-four percent of these students had a course load of 15 or more semester hours. In fall 1966, a study of American Indians in Michigan colleges and universities (Vocational Preparation and Race in Michigan Higher Education 1967, pp. 28, 29) revealed 74.5 percent of the Indian students were full-time. Freshmen comprised 26.9 percent of the Indian students with 22.4 percent sophomores, 13.2 percent juniors, 13.2 percent seniors, 15.1 percent graduate, 2.9 percent graduate professional, and 6.3 percent other.

In 1967-68, the nearly 3,000 BIA scholarship grantees were comprised of 53.9 percent freshmen, 22.6 percent sophomores, 13.2 percent juniors, 8.8 percent seniors, and 0.8 percent graduate students. The unknown or unclassified were 0.7 percent. Freshmen comprised 54.8 percent of all the Indian undergraduate students, and almost one in four were sophomores. Oklahoma, Arizona, South Dakota, New Mexico, and Montana had the largest numbers of BIA supported college students in December 1966, (Aurbach, Fuchs, and Macgregor, 1970, pp. 86, 89, 139).

The survey of 2,736 BIA higher education program grantees (Higher Education Evaluation: Student Characteristics and Opinion 1973, p. 4) showed 89 percent were full-time with 40 percent classified as freshmen and 26 percent as sophomores, 16 percent juniors, and 13 percent seniors. A 1974 Minnesota survey of Indian students in private colleges found 41 percent of their 128 Indian students classified as freshmen and 19 percent as sophomores, 17 percent as juniors, 14 percent as seniors, 1 percent graduate students, and 7 percent as "special" (Indian Students in Minnesota's Private Colleges 1974, pp. 2, 7).

Richard's study of Indian students in Florida higher education (1978, p. 126) reported Indians were equally divided between full-time and part-time enrollees with younger, single, or previously married and less affluent students more likely to be enrolled full-time than the older married and more affluent students.

In summary, the literature has shown the majority of American Indian college students classified as full-time freshmen. Full-time enrollment status often has been a requirement of scholarships and/or grants, but it has not affected the continued low completion rate of entering Indian students.

Aspirations/Goals

During the first part of this century, American Indian college graduates were restricted in the fields they could enter. There was a lack of horizontal and vertical social mobility. Indian college graduates were free to enter and advance in the fields of elementary and secondary education. This tradition has carried over to the present time, even though more professions and fields have opened to Indian college graduates. American Indian college undergraduate and graduate students have entered education more than any other field of study because of the need for Indian teachers at all levels and because of the role models provided by Indian teachers now in the profession. Education has dominated the number of Indian professionals, and the choice of a major for Indian undergraduate and graduate students (Chavers 1979, pp. 39, 93).

Artichoker and Palmer (1959, p. 8) found education (teacher training), engineering, and trade courses accounted for the majors of nearly half of the Indian students in their study. The most frequently mentioned areas of future assistance to Indian people by Indian college students was in education, health, and social work. McGrath et al., (1962, p. 192) showed that of Indians in school, most frequently selected majors were education, business, and engineering.

Hamblin (1963) studied Indian students in Apache and Navajo counties in Arizona seeking a higher education after high-school graduation. Hamblin (1963, pp. 40, 46) found 37.4 percent planning to enter college. Twenty-four percent of those planning to enter higher education desired professional training in order to become a doctor, lawyer, or teacher. In Minnesota's private colleges (Indian Students in Minnesota's Private Colleges 1974, p. 2) 53 percent of the Indian students were working toward a bachelor of arts degree with Indian studies, nursing, and social work as majors most selected. In Michigan, American Indian students directed their vocational choices to nonscientific oriented professional occupations. Indians indicated they planned to enter the fields of teaching, health services, social work, and clerical work (Vocational Preparation and Race in Michigan Higher Education 1967, p. 29).

Bass (1969, pp. 31, 37) studied American Indian high-school graduates in the Southwest and reported 285 or 74 percent of the 384 Indians interviewed continued their education or training beyond high school, and 197 or 69 percent had completed either a vocational-technical program or graduated from college. Forty-four percent completed a vocational-technical program and 7 percent had completed college. Of those who attended college, most of the females enrolled in education and most males in liberal arts. The next most popular major for females was liberal arts, and for males, education.

The BIA survey (Monsen 1973, p. 11) of higher-education grantees found 34 percent of their 2,736 respondents working toward a bachelor of arts degree, 38 percent toward a bachelor of science, and 12 percent toward an associate of arts degree. The remainder were working toward graduate, professional degrees, or other degrees. Education was the most frequently selected major with 22 percent of the respondents. Munro (1978, p. 2) surveyed Laguna-Acoma high-school graduates for 1964-74 who received bachelor degrees and reported on the 62 students who had earned degrees. Education was the most popular major and accounted for 20 degrees. Business administration was second with nine degrees.

Richards (1978, p. 127) found a majority of the Indian college students in Florida were pursuing associate degrees or certificates. Yet, future degree aspirations were high with two-thirds seeking at least the bachelor degree, 21 percent aspired to at least the masters, and 22 percent aspired to advanced graduate work. Business and education were the most prevalent majors. Career goals followed their academic interests and were in business and education fields. Education, social science, business, and management were the three fields with the highest number of bachelor's degrees conferred upon American Indian/Alaskan Natives in 1976-77 (Grant and Eiden 1980, p. 125).

Kleinfeld (1978, pp. 8-10) studied factors that contributed to Alaskan native students' college success. Goal orientation was one factor examined. The findings indicated a clear, specific career goal in itself did not appear to be important to the native students' success in college, but the career goals of native freshmen students were just as clear (or unclear) as those of the nonnative.

Native students were also asked why they came to college. Native freshmen students significantly more often than non-natives indicated they came to college to "see what it was like" or because they had "nothing else to do." This kind of motivation was found significantly related to college failure for native students.

Education has dominated the choice of majors for American Indian college students. Traditionally, American Indians were restricted in the fields they could pursue. Education was one field most open to them. Today, American Indians have many fields and professions to aspire to, but they have continued to major in education because of the need for Indian teachers at all levels. The majority of American Indian college students are pursuing undergraduate certificates and degrees with many aspiring to advanced degrees.

Self-Concept

Self-concept has been a term used by different theorists to label different ideas, and many similar terms have been used interchangably, sometimes in opposition, and most often as extensions of the idea of self-concept. Self as a word has also been freely combined with other terms, and this has added to the complexity of the semantic problem (Bischof 1976, p. 182). A generally accepted definition of self-concept was given by Bischof (1976, p. 182) as "the person's fullest description of himself which he is able to give at any specific time. Self-image is the self one thinks himself to be over a period of time as well as at a specific time." Bischof further stated that self-image (what the self thinks itself to be) rather than self-concept (what the self describes itself to be) had been employed in most of the research done in the area of the self.

Harris (1979, p. 27) reviewed the literature on American Indians and self for the past five decades. She discovered self described as self-esteem, self-concept, self-perception, self-image, and self-regard. Harris summarized her review as follows:

> During the five decades the research progressed from anthropological studies to studies which differentiated between the American Indian and Caucasian concepts of self from a cultural deficiency perspective, through psychological studies that indicated Indian maladjustment, to current studies which concluded that the American Indian had always had a positive self-regard (p. 116).

Studies on self and American Indians were plentiful, but studies specifically on self-concept and the American Indian college student were more limited. As with other variables, most of the studies on self-concept and Indian students were conducted at the elementary and secondary levels. A few of these studies were reviewed and are presented for background information.

Approximately two-thirds of all the relevant studies on self and American Indians were published between 1970 and 1978 (Harris 1979, p. 37). Harris believes this abundance of information was due to the political and philosophical climate of the early seventies. The civil-rights movement of the late sixties preceded this period, attention was turned to Indians, and federal monies were available for research on ethnic minorities' inaccessability to social, political, and economical institutions (Harris 1979, pp. 37, 38).

Coleman (1966, p. 281) examined self-concept or a child's sense of his ability as a factor that affected both school achievement and achievement in later life. He stated "If a child's self-concept is low, if he feels he cannot succeed, then this will affect the efforts he puts into the task and thus, his chances of success." The self-concept responses of American Indians at the ninth and twelfth grade levels were reported as lower than those of either the white or black sample. Coleman's report brought much attention to the needs of minority children.

The relationship of self-concept and academic self-assessment to the educational aspirations of 158 adolescent American Indian boys aged 14 to 19 years of age at a BIA high school in South Dakota was studied by Hoffman (1968).

The findings showed self-concept was significantly related to educational aspirations. Boys with higher total self-concept scores were more likely to aspire to more years of formal education, and boys with a low score were more likely to choose a less demanding educational program. Academic self-assessment was also found to be significantly related to educational aspirations. Educational aspirations were affected by the Indian boy's self-concept of ability and his evaluation of others similar to him, as reflected by his response to the self-assessment scale. As the level of fathers' education increased, there was a tendency toward higher self-concept, and academic self-assessment tended to be higher among boys whose mother had a high-school education or above. Self-concept also tended to increase with the ascent of fathers' occupational status. Self-concept was higher among boys of employed mothers and increased with the occupational status of the mother.

Bryde (1970) sought to identify the psychological causes of the breakdown of scholastic achievement and general social performance of Oglala Sioux Indian youth in the seventh and eighth grades. The Minnesota Multiphasic Personality Inventory (MMPI) was the main test instrument which was administered to 415 Indian and 223 white adolescents. Results revealed alienation and anomie with the resultant feelings of rejection, depression, and anxiety as central to explaining the behavior of Indian students studied. Indian youth were alienated from themselves and others during the troubled years of adolescence, and they had an extremely crippling negative self-image. The Indian youth had no direction and were lost.

As part of the National Study of American Indian Education, a study was conducted on the self-concept of American Indian students. Data were collected by the administration of self-report questionnaires from over 2,000 Indians from 8 to 20 years of age who attended public, mission, and BIA schools from Alaska to North Carolina. Comparisons were also made between Indian and non-Indian groups. The author concluded that the self-esteem and self-concept data indicated that a great majority of the Indian youth saw themselves as fairly competent persons within their own social world but judged themselves somewhat lower in the non-Indian world. Another conclusion was that the context within which an individual judges himself is critical to attaching meaning to his so-called "self-esteem" ratings, and that self-concept must be studied more extensively before it is understood (Dreyer and Havighurst 1970). A decrease in self-esteem at adolescence as hypothesized by Bryde (1970) was not confirmed by this study.

Perceptions of self of Anglos, American Indians, Chicanos, and black Americans were compared by Cooper (1971). Additionally, Cooper investigated perceptions of the groups with regard to themselves as students, members of their respective ethnic groups, and to each other. Indians were found positive in their perceptions of self but less favorable about their perceptions of themselves as students.

Graham (1971) explored the relationship between the self-concept and educational factors among male Navajo students in a BIA school. The major finding of the study indicated a positive and significant correlation between students' self-definition (self-concept) and grade point average, and between teacher evaluation and self-definition.

The self-concept of elementary Anglos and Indian children were compared by Martig and DeBlossie (1972) to determine if Indian children had a lower self-concept than their Anglo counterparts. This study was designed to test the findings of the Coleman report (1966) that Indian children had a lower self-concept than Anglos. The findings indicated no significant difference in Indian and Anglo self-concept, but they found that girls had a higher self-concept than boys.

Abdel-Mawgood and Hatch (1973) assessed the self-concept of academic ability among sixth, eighth, and twelfth grade Indian students. Comparisons were made with other children in their classes to determine the role of socio-economic and ethnic background in determining the level of self-concept. Factors that correlated with self-concept and academic achievement of Indian children were also examined. The findings indicated self-concept provided a good prediction of GPA, no significant difference existed between grade-school and high-school Indian students in self concept scores, mean self-concept score, and mean GPA for Indian students were significantly lower than white students. There was a strong correlation between family income and self-concept.

Self-confidence of primary and junior-high-school Indian students as it related to grade level and numbers of years enrolled at a particular BIA boarding school was investigated by Martin (1974, pp. 32-34). A significant negative association between grade level and self-confidence was found. Results also indicted that an increase in the number of years enrolled in school was not accompanied by a decrease in the measure of self-confidence as shown by Hathhorn (1971).

Martin (1978, pp. 27-29) also investigated self-esteem of fourth, eighth, and twelfth grade Indian and white students in Oklahoma public schools. The results showed that Indian and white children do not significantly differ in their developmental level of self-esteem until junior-high-school grades. Indian children were significantly lower than white children in terms of self-esteem at the junior-high level, and this difference persisted throughout the high-school grade level.

Heaps and Morrill (1979, pp. 12-14) compared self-concept of Navajo and white high-school students in Arizona by administering the Tennessee Self-Concept Scale. The results indicated no significant difference between the two groups on the overall level of self-esteem. Five sub-scales showed the students' perceptions of their behavior, self-satisfaction, physical self, personal worth, and value as a family member were also found not to be significant. Significant differences were found on four subscales with Navajo students demonstrating less satisfaction with their personal identities, moral-ethical self, and relations with other people, plus more social defensiveness than white students. Navajo and white students were different from each other in areas of self-perception which involved social comparisons or moral values unique and important to each culture.

The number of available studies on Indian college students and self-concept were not as plentiful as those conducted on elementary and secondary students.

Hathhorn (1971) studied factors related to post-high-school education pursuits of Indian members of the

1962 graduating class of a six-state area. The study concluded that Indians' low self-image was reinforced by their formal education. Indians were increasingly cognizant of their disparity, and it was obvious that the formal education received was not meeting the needs of individual Indian students.

Ryan (1973) studied the differences in acclimated and unacclimated native Indian university students' personalities. Ryan was interested in the personality structure of Indian students as it existed in certain settings. The findings indicated no distinct personality differences among acclimated and unacclimated students, no sex differences, no differences with regard to bilingual students, and that native students differed in personality structure from the normative nonnative American college student.

A more current study by Harris (1979) sought to determine if a positive relationship existed between self-regard, locus of control, and academic achievement. Data were collected from American Indian students at an all-Indian junior college. A significant positive relationship was found between self-regard and locus of control: they were found to be related to academic achievement for American Indians in higher education. This relationship was also shown by Coleman (1966) and Wilson and Black (1978).

Literature on self and the American Indian student was plentiful at the elementary and secondary levels. Few studies dealt with the American Indian college student. The studies reviewed showed the Indians' low self-image was reinforced by formal education (Hathhorn 1971), that no distinct personality differences existed between acclimated and unacclimated native Indian college students' personalities (Ryan 1973), and that a significant positive relationship was found between self-regard and locus of control with both related to academic achievement for American Indians in higher education (Harris 1979 pp. 118).

Locus of Control

The locus of control construct of reinforcement, a personality variable, was developed out of social learning theory by Rotter (1954) and later Rotter, Chance, and Phares (1972). Rotter (1966) indicated by the literature as the foremost authority on the construct, defined the construct as follows:

> When a reinforcement is perceived by the subject as following some action of his own, but not being entirely contingent upon his action, then in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in <u>external control</u>. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in <u>internal control</u> (p. 1).

Literature on American Indian college students and locus of control was not plentiful. Several studies had been conducted on American Indian students at the elementary and secondary levels, but studies on Indians at the post-secondary level were almost nonexistent.

Rotter's definition implied that an individual's locus of control can be expressed as existing on a continuum from an internal orientation to an external orientation. Overall, external locus of control orientation appeared to be associated with negative personality characteristics and internal orientation related to positive personality characteristics (Martin 1978, p. 23). Thus, the concensus of most researchers was that it was more advantageous for a person to acquire characteristics of internal orientation than external orientation.

To measure perceived locus of control in adults, Rotter and Associates developed the Internal-External (I-E) Scale. The Rotter I-E Scale has become the most widely used measure of the construct though others exist.

Several studies have been conducted on locus of control of elementary and secondary American Indian students. Coleman (1966, p. 289) investigated the general attitudes of minority children toward their environment. The study revealed minority children, including American Indians, showed a much lower sense of control of their environment than did white students. Graves (1961) found differences in locus of control among children of Ute Indians, Spanish-American heritage, and whites in an isolated tri-ethnic community. Indians were reported as being the most external of the three groups, followed by Spanish Americans and whites. Locus of control among American Indians and white children in North Dakota was investigated by Tyler and Holsinger (1975). The findings supported the hypothesis that culturally disadvantaged Indian children were more external than other white children, and that internality increases with age. As children grow and develop they can be expected to become more in control of the outcomes in their life experiences. In a study of fourth, eighth, and twelfth grade Indian and white children in Oklahoma public schools, Martin (1978, p. 28) also found that both groups tended to become more internal with age. Another conclusion was that white children perceived themselves as having more control over their actions than Indian children at all three grade levels. Indian and white children differed in their locus of control orientation, and the difference was evident by the time the student reached fourth grade.

Two studies were found that dealt specifically with locus-of-control and Indian college students. Mackey (1979) compared Indian college students with white college students in their locus of control orientation. Three groups of 40 freshmen and sophomore college students who attended Sinte Gleska College on the Rosebud Reservation in South Dakota at Vermillion were compared. The results of the study showed that American Indian college students, when compared to white college students, were found to be more internally oriented (more in control of the outcomes and destinies in life). A second study by Harris (1979) investigated factors related to the achievement of American Indian students in higher education, specifically self-regard and locus of control. Data were collected from an all-Indian junior college. Harris concluded that high self-regard and internality were related to academic achievement for American Indians in higher education.

Studies on locus of control and American Indian college students were found to be sparse. Yet, several studies existed on locus of control and American Indians at the elementary and secondary levels. Generally, these studies indicated American Indian students were more externally controlled when compared to white students, and internality increased with age for Indian students. Two collegiate level studies showed American Indian college students more internally oriented when compared to white students (Mackey 1979), and high self-regard and internality were related to academic achievement for American Indians in higher education (Harris 1979).

Socioeconomic Status

The socioeconomic conditions of American Indian college students and their families generally have been poor. Statistics based on 1970 census data showed the American Indian in the United States suffered from inadequate education, relatively poor health, low income, poor housing, and sanitary conditions generally regarded as unacceptable (American Indian Policy Review Commission Final Report 1977, p. 90).

The median years of education for rural Indian females and males was 9.7 and 9.4 years, respectively. Urban Indian females had 11.4 years, and urban Indian males had 11.5 years of education (American Indian Policy Review Commission Final Report 1977, p. 93).

Based on 1970 census data, Indians had the lowest rate of male labor force participation of any group in the United States. There was participation by only 63 percent of Indian men 16 years of age and over in the labor force. This was 14 percent below the United States total average. Rural Indian men had a lower rate of only 56 percent. Greater employment opportunities existed for urban Indian men with a 72 percent labor-force participation rate. Labor force participation rate for Indian women 16 years old and over was 35 percent with 42 percent participation for urban Indian women, and 29 percent participation for rural Indian women. The unemployment rate for Indian males aged 16 years and over was 11.6 percent which was three times higher than the United States total rate. The rate for urban Indian males was 9.4 percent with 14 percent for rural Indian males (A Study of Selected Socioeconomic Characteristics of Ethnic Minorities Based on the 1970 Census 1974, pp. 49, 50). The unemployment rate for Indian teenagers was twice the overall Indian rate (Morrison 1976, p. 14).

Farm managers and laborers both farm and non-farm, were the major occupational roles of rurally employed Indian males (31 percent). Many rural Indian women were employed in service occupations (35 percent) and as semiskilled operatives (22 percent). Jobs achieved by urban Indians indicated some upward mobility into white-collar occupations and high-status blue-collar jobs. Twenty-three percent of all urban Indian males were employed in skilled blue-collar jobs, and 48 percent of all urban Indian females were in white-collar occupations with 12 percent as professional workers and 29 percent as clerical workers (A Study of Selected Socioeconomic Characteristics of Ethnic Minorities Based on the 1970 Census 1974, pp. iii-iv).

Indians had the lowest income level of any group in the United States based on 1970 census data. Incomes of less than $4,000 were received by 55 percent of all Indian men 16 years old and over which represented 24 percent more low-income men than the United States average for men. Eighty percent of all Indian women 16 years old and over had incomes under $4,000. An income of $10,000 and over was received by 8.5 percent of Indian males and 1.5 percent of Indian females. The median income of all Indian males 16 years old and over was $3,509 and for women $1,697. Incomes of less than $4,000 were received by 34 percent of all Indian families, and 22 percent of all Indian families had incomes of $10,000 and over. The median income of all Indian families was $5,832 (A Study of Selected Socio-economic Characteristics of Ethnic Minorities Based on the 1970 Census 1974, p. 59). Indian families had the lowest median income of any group in the population based on 1970 census data. Yet, Indians had among the largest families and the most family members to support.

Both urban and rural Indian life styles have been characterized by poor housing and sanitation conditions. In rural areas, two-thirds (67 percent) of all Indians lived without water in their houses, 48 percent lived without toilets, and nearly a third of all rural Indian households had no automobile. In urban areas, 0.9 percent of all Indians lived without water, 8.6 percent had no toilets, and 27.9 percent had no automobiles. Of all Indian urban housing, 19 percent were moderately or seriously overcrowded while 7 percent of the total urban United States population lived under substandard conditions. Moderate or severely overcrowded housing was experienced by 44 percent of all rural Indians (A Study of Selected Socio-economic Characteristics of Ethnic Minorities Based on the 1970 Census 1974, pp. 75, 76).

Health care has improved for Indians since 1955 when the Indian Health Service (IHS) assumed responsibility. Mortality rates have declined, and life expectancy increased. Between 1955 and 1971, Indian infant death rates decreased 56 percent, maternal death rates decreased by 54 percent, and death from tuberculosis, gastritis, and influenza/pneumonia declined 86, 88, and 57 percent respectively. Life expectancy increased from 60 years in 1950 to 65.2 years in 1970, but Indian life expectancy remained lowest of any United States population group. Health care for Indians has remained a serious problem in spite of advances cited. The Indian death rate from accidents was three times the national average in 1971, as was Indian mortality rate for cirrhosis of the liver, tuberculosis, and gastritis. Between 1965 and 1971, the incidence of otitis media increased 74 percent, strep throat and scarlet fever increased 218 percent, and influenza by 242 percent (American Indian Policy Review Commission Final Report 1977, p. 91).

Based on 1970 census data, 33 percent of all Indian families and 45 percent of rural Indian families lived in poverty which was three and four times the national average, respectively. Urban Indians in poverty were twice the national average (A Study of Selected Socioeconomic Characteristics of Ethnic Minorities Based on the 1970 Census 1974, p. 67). Public assistance was received by one in five of all Indians which was four times the national percentage. Twice as many reservation Indians lived in poverty compared to urban Indians. Of the 500,000 reservation Indians, one-half subsisted in poverty and one-half were under age eighteen (Morrison 1976, pp. 9, 14).

Socioeconomic status had been shown to influence college entrance and attendance. A related study on Indian students and socioeconomic status was reviewed and is presented.

Larson (1971) investigated the relative impact of family income on the level of educational aspirations and expectations of high-school students. Information was received from 119 native American and 304 non-Indian youth who attended four small rural high schools in Montana. The data revealed 9 percent fewer Indians than non-Indians aspired to attend four years of college, and 10 percent fewer Indians than non-Indians expected to attend four years of college. Grouped by family income, 48 percent of the high-income Indian students held aspirations for a college degree, and 33 percent held the same expectations. For high-income, non-Indians the comparable percentages were 61 percent and 54 percent which indicated greater goal deflection among Indian students. Little difference existed between the educational aspirations and expectations of low-income Indian and non-Indian students. Overall, family income, as reported by students, made a consistent difference in the level of educational aspirations and expectations of students and the amount of thought given to educational plans.

Generally, the socioeconomic conditions of American Indians has been poor. American Indians have suffered from inadequate education, relatively poor health, low income, poor housing, and unacceptable sanitary conditions. Socioeconomic conditions have also been shown to influence educational pursuits. Larson (1971 p. 16) reported family income, as reported by students, made a consistent difference in the level of educational aspirations and expectations of native American and non-Indian high school students.

The review of literature has shown American Indian college students as a diverse group. There was little consensus as to sex, age, high-school rank, college selection, self-concept, and locus of control of the American Indian college student. There appeared to be more agreement as to finances, academic preparation, institutions attended, classification/enrollment status, aspiration/goals, and socioeconomic status of the American Indian college student.

Most of the literature reviewed dealt with American Indian college students in particular institutions, states, or regions. The BIA higher-education study was the only one that dealt with Indian college students on a nationwide basis, but it dealt only with BIA grantees. Thus, there existed a need for additional studies based on national data to increase available knowledge and understanding about these particular college students. This current study has provided such information on American Indian students based on data from two national studies.

CHAPTER 3

RESEARCH PROCEDURES

The data for this study were extracted from two sources, the Cooperative Institutional Research Program (CIRP) and the National Longitudinal Study of the High-School Class of 1972 (NLS). Research procedures follow involving a discussion of the CIRP and the NLS studies and analysis of data.

Cooperative Institutional Research Program

The Cooperative Institutional Research Program, the largest ongoing national longitudinal study of the American higher-education system, was initiated in 1966 at the American Council of Education (ACE). The responsibility for administering CIRP was transferred, under continuing sponsorship of ACE, in 1973 to the Graduate School of Education at the University of California, Los Angeles. Entering freshmen surveys produce national norms describing the characteristics of new college freshmen, and the data provides a basis for national longitudinal studies on a wide variety of educational problems and issues. In 1977, CIRP involved nearly 4 million students and more than 900 institutions.

The principal purpose of CIRP is to determine the effects of college on students (Astin, King, and Richardson, 1977, p. 1).

Approximately 15 percent of the nation's institutions of higher education were selected by sampling procedures and invited to participate in the freshmen survey between 1966 and 1970. In 1971, all institutions with entering freshmen classes which responded to the United States Office of Education's Higher Education General Information Surveys were invited to participate. A minimum charge and a unit rate based on the number of forms processed helped defray direct cost (Astin King, and Richardson, 1977, p. 1). A typical annual freshmen survey involves approximately 300,000 students at 600 two-year colleges, four-year colleges, and universities (Data Base Documentation 1972).

The CIRP freshmen survey data were collected by administering the Student Information Form (SIF), a survey instrument, during registration, freshmen orientation, or the first few weeks of class. The SIF is administered to entering freshmen classes at a national sample of colleges and universities. The form was designed to serve two functions: (1) to obtain student input data for longitudinal research and (2) to obtain standard descriptive and normative data for general information (Astin, King, and Richardson, 1977, p. 5). The 200 item questionnaire covered a wide range of biographic and demographic data, as well as data on student's high-school background, career plans, educational aspirations, financial arrangement, high-school activities, and current attitudes.

The SIF is revised annually to reflect changing concerns of the academic community and of others who use the information. The form contains standard biographic and demographic items administered annually, and research-oriented items that are new or modified from previous years. New and modified items permit a more thorough coverage of student characteristics and a compromise between two mutually exclusive objectives: (1) comparability of information from year to year and (2) flexibility in item content to meet changing information and research needs (Astin, King, and Richardson, 1977, pp. 5, 7).

The freshmen survey instrument was developed in collaboration with students, professional associations, participating institutions, government agencies, educational researchers, administrators, policy makers, and members of the CIRP Advisory Committee.

The data used for this study were extracted from the annual freshmen surveys of 1966, 1972, and 1978. The freshmen surveys were used because the data covers a wide range of student characteristics over time, and they are based on a national sample of entering freshman students. The variables selected from these surveys were sex, age, high-school rank, concern about finances, enrollment status, need for academic help, probable major fields of study, probable careers, highest degree planned, type of institutions attended, control of institutions attended, regions of institutions attended, and reasons for selecting a particular institution.

Data on the characteristics of American Indian entering freshman students and their comparisons with white/Caucasian and Mexican American/Chicano students were based on responses from students identifying themselves only as members of such racial/ethnic groups. The sample consisted of 221,941 white/Caucasians and 1,177 American Indians in fall 1966; 259,855 white/Caucasians, 531 American Indians, and 2,793 Mexican American/Chicanos in fall 1972; and 237,473 white/Caucasians, 493 American Indians, and 2,584 Mexican American/Chicanos in fall 1978. The raw CIRP data also included some students who reported their enrollment status as special or conditional or part-time and non-first-time freshman students.

The National Longitudinal Study of the High-School Class of 1972

Since CIRP dealt only with freshmen, data from the National Longitudinal Study of the High School Class of 1972 were used for (1) information on attendance in college and for (2) comparisons of attenders and nonattenders.

The NLS is a large-scale longitudinal questionnaire survey of a national, stratified random sample of seniors from the high-school class of 1972. The NLS is sponsored by the United States Department of Education and is administered by the National Center for Educational Statistics (NCES).

> The primary purpose of the NLS is the observation of educational and vocational activities, plans, aspirations, and attitudes of young people after they leave high school, and the investigation of the relationship of this information to their prior educational experiences, personal, and biographical characteristics (Levinsohn et al., 1978, p. 1).
>
> The sample design may be described as a deeply stratified two-stage probability sample with schools as first-stage sampling units and students as second-stage units. The population consisted of all 1972 twelfth graders enrolled in all public, private, and church-affiliated high schools in the 50 States and the District of Columbia. The first-stage sampling frame was constructed from computerized school files maintained by USOE and by the National Catholic Education Association.
>
> The school sampling frame was stratified into 600 final strata based on the the following variables:
>
> - Type of control (public or nonpublic),
> - Geographic region (Northeast, North Central, South, and West),
> - Grade 12 enrollment (less than 300; 300 to 599; 600 or more),
> - Proximity to institutions of higher learning,
> - Percentage minority group enrollment,
> - Income level of the community, and
> - Degree of urbanization.
>
> In order to increase the numbers of disadvantaged students in the sample, schools located in low-income areas and schools with high proportions of minority group enrollments were sampled at approximately twice the sampling rate used for the

> remaining schools. Schools in the smallest grade 12 enrollment strata (less than 300 seniors) were selected with probabilities proportional to their estimated numbers of senior students and without replacement. Schools in the remaining strata were selected with equal probabilites and without replacement. In each final stratum, four schools were selected initially and then two of the four were randomly selected and designated as the primary selections. The other two schools were retained as backup or substitute selections and were to be used in the sample only if one or both of the primary schools did not cooperate (e.g., refused, ineligible). Samples of 18 students per school were selected and five additional students were selected as alternates. The students were sampled with equal probabilities and without replacement within schools (Levinsohn et al., 1978, pp. 5, 6).

The original sample design called for 1,200 primary sample schools with up to 21,600 students. After nonparticipation by some schools in the base-year survey, the use of backup schools, and an augmentation of schools in later surveys, the final NLS sample consisted of 1,318 schools with 23,451 students (Levinsohn, et al. 1978, pp. 6, 7).

The National Longitudinal Study of the High-School Class of 1972 data used in this study came from base-year (1972), first (1973), second (1974), and third year (1976) follow-up surveys. The base-year survey data were collected by Educational Testing Service, and the follow-up data were collected by Research Triangle Institute.

The base-year survey instrument consisted of a Student Questionnaire (SQ), a 69-Minute Test Book (TB), Student's School Record Information Form (SRIF), a School Questionnaire, and Counselor Questionnaires. Collection consisted of group administration of the questionnaire and 69-Minute Test Book in each participating school. There were 1,069 schools able to participate with a student sample of 19,144. School record information forms for each participating student, plus approximately 1,000 additional students, were completed by survey administrators. Most of the data on students were collected in April, May, and June of 1972.

The Student Questionnaire contained 104 questions over 11 major sections. It dealt with factors related to the student's personal and family background, educational and work experiences, plans, aspirations, attitudes, and opinions. Students' answered only applicable portions and were given the option to complete the form at school or home with parental assistance. The 69-Minute Test Book consisted of six tests which measured both verbal and nonverbal ability. The SRIF data collected pertained to the student's high-school curriculum, grade point average, credit hours in major courses, and, if applicable, his/her position in ability groupings, remedial-instruction record, involvement in certain federally-supported programs, and scores on standardized tests. The School Questionnaire and one or two Counselor Questionnaires were also obtained for each participating high school (Levinsohn et al., 1978, pp. 21-25).

The first follow-up questionnaires were mailed to the last known addresses of the target survey sample of 22,654 in October 1973. This was followed by a planned sequence of reminders, postcards, additional questionnaire mailings, reminder mailgrams, and personal interviews of nonrespondents. The final response rate was 21,350 respondents out of 22,654. The first follow-up questionnaire consisted of two forms, A and B, and were self-administered by students. Students who responded to the base-year questionnaire were mailed Form A, and Form B was mailed to students unable to participate in the base-year survey. The first 85 questions were identical on both forms with an additional 14 questions on Form B to supplement missing base-year information. Form A had five sections: General, Education and Training, Work Experience, Military Service, and Background Information. The information dealt with the respondents' activity in October 1972 and October 1973, socioeconomic status, work and educational experiences since leaving high school, and future educational and career plans, aspirations, and expectations (Levinsohn et al., 1978, pp. 25, 27-28).

The second follow-up survey consisted of a target sample of 22,364 students of the 23,451 final NLS sample. Data collection took place from July 1974 through June 1975 using survey activities similar to the first follow-up. The response rate was 20,872 out of 22,364 or 93.3 percent.

The second follow-up questionnaire was similar in format to the first follow-up. It contained seven sections: General, Education and Training, Work, Family, Military, Activity and Opinions, and Background Information. There were over 153 questions to collect updated information on NLS sample members as of fall 1974. Information was collected on activity states, family status, personal attitudes, opinions, and plans. Most of the instrument items were forced-choice format as was the first follow-up, with open-ended or free response questions limited to questions involving dates, income, hours or weeks worked, and the like (Levinsohn et al., 1978, pp. 26, 28).

The third follow-up study began in October 1976 with 20,092 persons participating out of a target survey sample of 21,807. As with the first and second follow-ups, the survey activities were similar. The overall response rate was 92.1 percent based on the target survey sample. The third follow-up questionnarie had 158 questions in seven sections with a format similar to those used in previous follow-ups. Major measures of past questionnaires were repeated, and information was collected on activity states in October 1975 and October 1976, graduate school application and entry, job supervision, sex-role orientation, sex and race biases, and subjective rating of high-school experiences (Levinsohn et al., 1978, pp. 26, 31).

The NLS variables used for this study were the composites of community orientation, family orientation, work orientation, self-concept, locus of control, and socioeconomic status. The composite for each of the above variables, except socioeconomic status, for American Indians was based on the year nearest entrance into college. Composites for Mexican American/Chicano and white/Caucasian students were based on the first follow-up survey. Socioeconomic status for all three groups was based on the raw score from the base-year and/or first follow-up. In addition, NLS data was obtained on financial sources planned and used by college students, and the number of students who continued college beyond year one.

The NLS sample consisted of a total of 242 American Indians of which 197 had useable responses, 65 in college and 132 not in college. The Mexican American/Chicano sample consisted of a total of 654 of which 567 were used, 188 in college and 279 not in college. Total NLS sample of white/Caucasians was 15,979. This study used a 10 percent random sample of white/Caucasians in school and not in school which consisted of 807 and 758 respectively. In the final sample of white/Caucasians, only full-time students attending two- or four-year institutions were used which was 678. The random sample of white/Caucasians from the NLS surveys was generated through the use of <u>Statistical Package for Social Science</u> (SPSS), (Nie et al., 1975).

Analysis of Data

Descriptive and comparative statistical procedures were used to analyze data for this study. The descriptive procedures used were frequency counts and percentages, and the comparative procedure consisted of the t-test of significance. Data were read from the CIRP and NLS tapes, and data transformation was accomplished through the use of SPSS (Statistical Package for Social Science) computerized programs (Nie et al., 1975).

Data from the CIRP tapes were used to answer research questions one through four. Frequency counts and percentages were computed for all selected variables on American Indian entering college students, as a group, and Mexican American/Chicano and white/Caucasian entering college students as a group. Only valid responses were used in the computation of frequency counts and percentages on selected variables for each of the three groups studied. These frequency counts and percentages for each variable were then constructed into tables according to racial/ethnic group and year. In many cases, three tables were developed for each group on a selected variable according to year. The tables were then used for comparisons of racial/ethnic group on selected variables according to year and comparisons of groups to each other on selected variables according to year.

The statistical procedure used to analyze the NLS data and answer research questions five and six was the t-test of significance. Students' significance and probability levels were established for American Indians, Mexican American/Chicanos, and white/Caucasians on selected factors. This is a common type of analysis for those interested in discovering and evaluating differences between effects (Nie et al., 1975; p. 267, Glass and Stanley 1970, pp. 295-303).

The samples of American Indians, Mexican American/ Chicanos, and white/Caucasians were each classified into two groups.

Group 1. Indians not in college
Group 2. Indians in college

Group 1. Mexican American/Chicanos not in college
Group 2. Mexican American/Chicanos in college

Group 1. White/Caucasians not in college
Group 2. White/Causasians in college

A test of mean differences was then performed on the two groups of American Indians, Mexican American/ Chicanos,and white/Caucasians on selected factors of work orientation, community orientation, family orientation, self-concept, locus of control, and socioeconomic status to determine whether or not the difference between the two group means was significant.

This chapter has presented the research procedures used in the study with a discussion of the CIRP and NLS studies and analysis of data. Chapter Four which follows includes the findings of the study and a discussion of each research question presented in Chapter One.

CHAPTER 4

FINDINGS

In this chapter, the findings of the study and a discussion of each research question formulated in chapter one are presented. The findings were divided into two main sections. The first section dealt with the characteristics of American Indian entering freshman students and their comparisons with Mexican American/Chicano and white/Caucasian students. Selected factors associated with entrance into college by American Indian students and their comparison with Mexican American/Chicano and white/Caucasian students comprised the second section.

Selected Characteristics of American Indian Entering Freshman Students

The data for this section, as stated before, were extracted from the CIRP annual freshmen surveys for fall 1966, 1972, and 1978. The number of students who identified themselves as American Indians, Mexican American/Chicanos, and white/Caucasians in the three years studied are presented in Table 1.

In 1966, Mexican American/Chicano was not a choice available to students under racial/ethnic identification. Students of Mexican American/Chicano descent could have

Table 1. Total number of CIRP respondents by year

Race/Ethnic Group	1966 N	1972 N	1978 N
American Indian	1,177	531	493
Mexican American/ Chicano	NA	2,793	2,584
White/Caucasian	221,941	259,855	237,473

marked the racial/ethnic identification category on the questionnaire in various ways depending upon how they interpreted the choices available to them. Thus, data on Mexican American/Chicano students were not available for analysis in 1966. In the same year, students were instructed on the questionnaire to identify themselves with only one racial/ ethnic group. In 1972 and 1978, students were allowed to mark all racial/ethnic categories that applied to their particular situation. Students of mixed heritage were allowed to identify with more than one racial/ethnic group. For the purposes of this study, students who identified themselves only as American Indian, Mexican American/Chicano, or white/Caucasian were used.

Only valid responses were used to tabulate and analyze data presented in this chapter. The total number of responses for each question does not necesasarily equal the total number of students who identified themselves as American Indians, Mexican American/Chicanos, or white/ Caucasians in 1966, 1972, and 1978.

Sex

Data on the sex of American Indian, Mexican American/Chicano, and white/Caucasian students in the three years studied are presented in Table 2. There were more male American Indian students in 1966 than females, but the

Table 2. Sex of entering freshman students

Race/ethnic Group	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
American Indian						
Male	614	52.6	254	47.8	227	46.0
Female	553	47.4	277	52.2	226	54.0
Total	1,167	100.00	531	100.0	493	100.0
Mexican American/ Chicano						
Male	N/A	N/A	1,530	54.8	1,247	48.3
Female	N/A	N/A	1,263	45.2	1,337	51.7
Total			2,793	100.0	2,584	100.0
White/Caucasians						
Male	125,809	57.1	142,019	54.7	114,662	48.3
Female	94,696	42.9	117,836	45.3	122,811	51.7
Total	220,505	100.0	259.855	100.0	237,473	100.0

reverse was true in 1972 and 1978. The percentage of females increased in 1972 and 1978 compared to males which decreased in both years. A larger number of white/Caucasian students, like American Indians, were male than female in 1966, but there were more female than male in 1978. Yet, there were more male white/ Caucasian students than females in 1972. This was also true for Mexican American/Chicano students, but not for American Indians. In 1978, all three groups had more female students than males.

Age

Tables 3, 4, and 5 provide data on ages of American Indian, Mexican American, and white/Caucasian entering freshman students. The data indicated the largest percent of American Indian entering freshman students were 18 years old in 1966, 1972, and 1978. Those nineteen-years-old constituted the second largest group. This was also the case for white/ Caucasian and Mexican American/Chicano students in all three years. The total percent of entering freshman students older than 21 was different for all three groups studied. American Indian students older than 21 increased significantly from 1966 (3.9 percent) to 1972 (11.6 percent) to 1978 (16.4 percent). White/Caucasian entering students older than 21 also increased from 2.4 percent in 1966 to 4.0 percent in 1972 to 4.1 percent in 1978. Mexican

Table 3. Age of American Indian entering freshman students

Age	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
16 or younger	3	.3	3	.6	2	.4
17	30	2.8	11	2.1	12	2.5
18	734	68.0	269	50.7	247	50.6
19	220	20.4	129	24.3	97	19.9
20	35	3.2	37	7.0	29	5.9
21	15	1.4	20	3.8	21	4.3
Older than 21	42	3.9	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A	N/A
22-25	N/A	N/A	32	6.0	16	3.3
23-25	N/A	N/A	N/A	N/A	23	4.7
26 or older	N/A	N/A	30	5.6	N/A	N/A
26-29	N/A	N/A	N/A	N/A	14	2.9
30+	N/A	N/A	N/A	N/A	27	5.5
Total	1,079	100.0	531	100.1	488	100.0

Table 4. Age of Mexican American/Chicano entering freshman students

Age	1972 f	1972 %	1978 f	1978 %
16 or younger	3	.1	2	.1
17	92	3.3	71	2.8
18	1,431	51.5	1,480	57.8
19	649	23.3	568	22.2
20	191	6.9	152	5.9
21	101	3.6	73	2.8
Older than 21	N/A	N/A	N/A	N/A
22	N/A	N/A	46	1.8
22-25	190	6.8	N/A	N/A
23-25	N/A	N/A	79	3.1
26 or older	123	4.4	N/A	N/A
26-29	N/A	N/A	47	1.8
30+	N/A	N/A	44	1.7
Total	2,780	99.9	2,562	100.0

Table 5. Age of the white/Caucasian entering freshman students

Age	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
16 or younger	332	0.2	294	0.1	224	0.1
17	11,252	5.5	11,173	4.3	7,386	3.1
18	159,710	77.6	189,529	73.0	168,365	71.4
19	24,706	12.0	36,513	14.1	38,997	16.5
20	3,420	1.7	8,299	3.2	7,795	3.3
21	1,269	0.6	3,397	1.3	3,470	1.5
Older than 21	5,245	2.5	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	1,895	0.8
22-25	N/A	N/A	6,166	2.4	N/A	N/A
23-25	N/A	N/A	N/A	N/A	3,074	1.3
26 or older	N/A	N/A	4,138	1.6	N/A	N/A
26-29	N/A	N/A	N/A	N/A	1,884	0.8
30+	N/A	N/A	N/A	N/A	2,771	1.2
	205,934	100.1	259,509	100.0	235,861	100.0

American/Chicanos in this same category decreased from 11.2 percent in 1972 to 8.4 percent in 1978.

High-School Rank

Data on the rank of American Indians in their high-school graduating classes in 1972 and 1978 were tabulated in Table 6. The American Indian students were concentrated in the top three-fourths of their classes in both years with a larger percentage in the top half than the bottom half. The percent in the top quartile increased in 1978 from 1972 with decreases in both the second, and lowest quartile. The percent in the third quartile was basically the same. Mexican American/Chicano students' rank in their high-school graduating classes was similar to American Indian students. There was an increase in the percentage of Mexican American/Chicano students in the top quarter from 1972 to 1978 and a decrease in the other three quartiles. The white/Caucasian students differed from the American Indians and Mexican American/Chicano students. In both years, the white/Caucasian students were concentrated in the top half with more ranking in the top quarter than any other quarter.

Concern About Finances

American Indian students' concern about finances is expressed in Table 7. In all three years studied, some

Table 6. Entering freshmen's rank in high-school graduating class

Rank	1972 f	1972 %	1978 f	1978 %
American Indian				
Top Quarter	148	30.6	181	39.5
2nd Quarter	180	37.3	142	31.0
3rd Quarter	128	26.5	113	24.7
Lowest Quarter	27	5.6	22	4.8
Total	483	100.0	458	100.0
Mexican American/ Chicano				
Top Quarter	754	29.6	1,218	49.3
2nd Quarter	875	34.4	733	29.7
3rd Quarter	765	30.0	432	17.5
Lowest Quarter	153	6.0	87	3.5
Total	2,547	100.0	2,470	100.0
White/Caucasian				
Top Quarter	135,967	53.7	133,030	57.2
2nd Quarter	76,058	30.1	68,165	29.3
3rd Quarter	36,159	14.3	27,850	12.0
Lowest Quarter	4,815	1.9	3,335	1.4
Total	252,999	100.0	232,380	99.9

Table 7. Entering students concern about finances

Concern	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
American Indian						
No Concern	393	33.6	160	30.2	146	29.9
Some Concern	645	55.2	238	44.9	214	43.8
Major Concern	130	11.1	132	24.9	129	26.4
Total	1,168	99.9	530	100.0	489	100.1
Mexican American/ Chicano						
No Concern	N/A	N/A	645	23.3	502	19.8
Some Concern	N/A	N/A	1,351	48.8	1,361	53.6
Major Concern	N/A	N/A	770	27.6	675	26.6
Total			2,766	99.9	2,538	100.0
White/Caucasian						
No Concern	82,303	37.2	98,324	38.0	85,076	36.2
Some Concern	122,774	55.5	127,715	49.3	116,913	49.8
Major Concern	16,006	7.2	32,936	12.7	32,996	14.0
Total	221,083	99.9	258,975	100.0	234,985	100.0

financial concern was indicated by the largest proportion of American Indian students though the percentage decreased for each year. There was also a slight decrease in the percentage of American Indian who expressed no financial concerns. American Indians who indicated major concern about finances increased in all three years with the largest increase occurring between 1966 and 1972. Some concern was also expressed by more Mexican American/ Chicano and white/ Caucasian students than other categories in all three years. The percentage of Mexican American/ Chicano students who indicated some concern increased from 1972 to 1978, while the percent of white/Caucasian students decreased during those years and increased slightly from 1972 to 1978. No concern for Mexican American/Chicano students, like American Indians, decreased from 1972 to 1978. No concern was highest in 1972 for white/Caucasian students, and it was slightly lower in 1966 and 1978. Major concern decreased slightly for Mexican American/Chicano students from 1972 to 1978, but it increased each year for American Indian and white/Caucasian students.

Enrollment Status

The enrollment status of American Indian entering freshman students, as well as Mexican American/Chicano and white/Caucasian students, was tabulated in Table 8. The majority of American Indian students were full-time

Table 8. Enrollment status of entering freshman students

Enrollment Status	1972 f	1972 %	1978 f	1978 %
American Indians				
Special or conditional	17	3.2	N/A	N/A
Part-time	13	2.5	23	4.7
Full-time	495	94.3	468	95.3
Total	525	100.0	491	100.0
Mexican American/ Chicano				
Special or conditional	29	1.0	N/A	N/A
Part-time	176	6.4	106	4.1
Full-time	2,558	92.6	2,469	95.9
Total	2,763	100.0	2,575	100.0
White/Caucasian				
Special or conditional	2,196	0.8	N/A	N/A
Part-time	4,199	1.6	5,439	2.3
Full-time	252,869	97.5	231,071	97.7
Total	252,869	99.9	236,510	100.0

students in 1972 and 1978. This was also the case with Mexican American/Chicano and white/Caucasian students in the same years. This was expected since CIRP data was designed for first-time, full-time freshman students. Yet, there was a small percentage who indicated part-time enrollment in 1972, 1978, and special or conditional in 1972. The percentage of full-time enrollment also increased for all three groups from 1972 to 1978.

Academic Help

The need for academic help in English, reading, mathematics, social science, science, and foreign language was examined in Tables 9-11. There were more American Indians who indicated no help was needed than those who indicated help was needed in all areas mentioned above. Mathematics was the only subject where the difference between the percentage points was slight, even though the difference increased in 1978 compared to 1972. There was also a decrease in the percentage of American Indian students who indicated they needed help in English between 1972 and 1978, and there was an increase in those needing help in social science, science, and foreign language between 1972 and 1978. More Mexican American/Chicano and white/Caucasian students, like American Indians, indicated no help was needed in all six subject areas than those who indicated

Table 9. American Indian entering freshman students' need for academic help

Subject		1972 f	1972 %	1978 f	1978 %
English	No	349	65.7	352	71.4
	Yes	182	34.3	141	28.6
	Total	531	100.0	493	100.0
Reading	No	450	84.7	418	84.8
	Yes	81	15.3	75	15.2
	Total	531	100.0	493	100.0
Math	No	268	50.5	290	58.8
	Yes	263	49.5	203	41.2
	Total	531	100.0	493	100.0
Social Science	No	472	88.9	428	86.8
	Yes	59	11.1	65	13.2
	Total	531	100.0	493	100.0
Science	No	384	72.3	350	71.0
	Yes	147	27.7	143	29.0
	Total	531	100.0	493	100.0
Foreign Language	No	388	73.1	388	68.6
	Yes	143	26.9	155	31.4
	Total	531	100.0	493	100.0

Table 10. Mexican American/Chicano entering freshman students' need for academic help

Subject		1972 f	1972 %	1978 f	1978 %
English	No	1,766	63.2	1,808	70.0
	Yes	1,027	36.8	776	30.0
	Total	2,793	100.0	2,584	100.0
Reading	No	2,344	83.9	2,181	84.4
	Yes	449	16.1	403	15.6
	Total	2,793	100.0	2,584	100.0
Math	No	1,415	50.7	1,515	58.6
	Yes	1,378	49.3	1,069	41.4
	Total	2,793	100.0	2,584	100.0
Social Science	No	2,514	90.0	2,241	86.7
	Yes	279	10.0	343	13.3
	Total	2,793	100.0	2,584	100.0
Science	No	1,919	68.7	1,762	68.2
	Yes	874	31.3	822	31.8
	Total	2,793	100.0	2,584	100.0
Foreign Language	No	2,448	87.6	2,136	82.7
	Yes	345	12.4	448	17.3
	Total	2,793	100.0	2,584	100.0

Table 11. White/Caucasian entering freshman students' need for academic help

Subject		1972 f	1972 %	1978 f	1978 %
English	No	216,040	83.1	212,858	89.6
	Yes	43,815	16.9	24,615	10.4
	Total	259,855	100.0	237,473	100.0
Reading	No	232,653	89.5	223,359	94.1
	Yes	27,202	10.5	14,114	5.9
	Total	259,855	100.0	237,473	100.0
Math	No	170,486	65.6	190,178	80.1
	Yes	89,369	34.4	47,295	19.9
	Total	259,855	100.0	237,473	100.0
Social Science	No	249,459	96.0	231,338	97.4
	Yes	10,396	4.0	6,135	2.6
	Total	259,855	100.0	237,473	100.0
Science	No	202,447	77.9	212,241	89.4
	Yes	57,408	22.1	25,232	10.6
	Total	259,855	100.0	237,473	100.0
Foreign Language	No	203,874	78.5	209,730	88.3
	Yes	55,981	21.5	27,743	11.7
	Total	259,855	100.0	237,473	100.0

help was needed. Again, mathematics had the smallest percentage difference between those indicating help was needed and those indicating no help was needed for Mexican American/Chicano and white/Caucasian students. Mexican American/Chicanos expressing a need for help decreased between 1972 and 1978 in English, reading, math, and science with an increase in those desiring help in social science and foreign language. White/Caucasian students who needed help also decreased between 1972 and 1978 for all six subject areas.

Probable Major Fields of Study

The probable majors selected by American Indians, Mexican American/Chicanos, and white/Caucasians were many. Thus, the majors were collapsed into general categories according to major field of study (Tables 12-14).

Generally, more American Indian entering freshmen selected majors in the fields of business, social science, arts and humanities, professional areas, and other fields in 1966, 1972, and 1978. In 1966, the majors reported by American Indians, in order of frequency, were business, social science, arts and humanities, professional areas, and other fields. Professional areas, social science, other fields, arts and humanities, and business were fields more American Indians selected in 1972 in order of importance. In 1978, the order of frequency was professional

Table 12. Probable major fields of study of American Indian entering freshman students

Major Field	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
Arts and Humanities	189	16.8	70	16.2	62	15.7
Biological Science	29	2.6	11	2.6	20	5.0
Business	204	18.2	64	14.8	66	16.7
Education	N/A	N/A	N/A	N/A	31	7.8
Engineering	122	10.9	31	7.1	32	8.1
Physical Science	37	3.3	12	2.8	10	2.5
Professional	156	13.9	87	20.2	84	21.2
Social Science	193	17.2	83	19.2	41	10.4
Technical	N/A	N/A	N/A	N/A	12	3.0
Other Fields	192	17.1	74	17.1	38	9.6
Total	1,122	100.0	432	100.0	396	100.0

Table 13. Probable major fields of study of Mexican American/Chicano entering freshman students

Major Field	1972 f	1972 %	1978 f	1978 %
Arts and Humanities	362	15.7	232	10.2
Biological Science	54	2.3	140	6.1
Business	427	18.4	439	19.3
Education	N/A	N/A	203	9.0
Engineering	124	5.4	226	9.9
Physical Science	61	2.6	49	2.1
Professional	550	23.8	377	16.6
Social Science	392	17.0	325	14.3
Technical	N/A	N/A	53	2.3
Other Fields	343	14.8	232	10.2
Total	2,313	100.0	2,276	100.0

Table 14. Probable major fields of study of white/Caucasian entering freshman students

Major Field	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
Arts and Humanities	42,455	19.6	41,556	17.1	27,255	12.3
Biological Science	8,145	3.7	11,220	4,6	12,904	5.8
Business	25,370	11.7	29,905	12.3	45,590	20.5
Education	N/A	N/A	N/A	N/A	15,850	7.2
Engineering	25,999	12.0	16,592	6.8	21,796	9.8
Physical Science	18,612	8.6	12,116	5.0	9,480	4.3
Professional	32,423	14.9	55,143	22.6	35,782	16.1
Social Science	41,228	19.0	39,704	16.3	21,054	9.5
Technical	N/A	N/A	N/A	N/A	4,591	2.1
Other Fields	22,664	10.5	37,146	15.3	27,568	11.2
Total	216,896	100.0	243,382	100.0	221,771	100.0

areas, business, arts and humanities, social science, and other fields. Mexican American/Chicanos were similar to American Indians in 1972 and 1978 by reporting more majors, though not necessarily the same order, in professional areas, business, social science, arts and humanities, and other fields. Overall, the largest proportion of white/ Caucasian entering freshman reported majors in arts and humanities, professional areas, social science, and other fields in 1966, 1972, and 1978, plus business in 1978. White/Causasian entering freshman students' choices of majors were more like American Indians in 1978 than in 1966 or 1972.

Probable Careers

Data on initial, probable careers for American Indian entering freshman students was tabulated in Table 15. Data on Mexican American/Chicano and white/Caucasian students were presented in Tables 16 and 17, respectively. Only first or single choice responses for probable careers were analyzed, and only probable careers selected by 5 percent or more of the students were compared for each applicable year.

Engineer was the only probable career choice selected by 5 percent or more American Indian students in all three years studied. Business executive appeared as a choice in 1966 and 1978, and lawyer or judge, nurse, or

Table 15. Probable careers of American Indian entering freshman students

Year	Number of Cases	Career Position	f	%
1966	1137	Teacher or Administrator (Secondary)	144	12.7
		Engineer	113	9.9
		Teacher or Administrator (Elementary)	99	8.7
		Business Executive (management administrator)	66	5.8
1972	412	Undecided	56	13.6
		Nurse	29	7.0
		Social Worker	25	6.1
		Engineer	22	5.3
		Lawyer	21	5.1
1978	429	Undecided	50	11.7
		Other	29	6.8
		Physician	29	6.8
		Lawyer or Judge	29	6.8
		Engineer	28	6.5
		Business Executive (management administrator)	27	6.3
		Nurse	25	5.8

Table 16. Probable careers of Mexican American/Chicano entering freshman students

Year	Number of Cases	Career Position	f	%
1972	2224	Undecided	248	11.2
		Business-Clerical	159	7.1
		Teacher or Administrator (Elementary)	152	6.8
		Lawyer	132	5.9
		Physician	117	5.3
1978	2297	Undecided	209	9.1
		Engineer	201	8.8
		Physician	182	7.9
		Lawyer or Judge	181	7.9
		Business Executive (management administrator)	176	7.7
		Accountant or actuary	139	6.1

Table 17. Probable careers of white/Caucasian entering freshman students

Year	Number of Cases	Career Position	f	%
1966	218,773	Engineer	24,027	11,0
		Teacher or Administrator (Secondary)	24,044	11.0
		Business Executive (management, administrator)	13,805	6.3
		Teacher or Administrator (Elementary)	13,446	6.1
1972	238,239	Undecided	35,167	14.8
		Other	14,617	6.1
		Physician	14,445	6.1
		Lawyer	14,441	6.1
		Teacher or Administrator (Secondary)	13,881	5.8
		Engineer	13,258	5.6
		Teacher or Administrator (Elementary)	12,526	5.3
1978	223,939	Undecided	27,922	12.5
		Business Executive (management, administrator)	20,589	9.2
		Engineer	19,244	8.6
		Other	13,731	6.1
		Lawyer or Judge	12,997	5.8
		Accountant or Actuary	12,311	5.5
		Physician	11,468	5.1

undecided were chosen in 1972 and 1978. Lawyer or judge and undecided were also chosen by Mexican American/ Chicano students in 1972 and 1978 along with physician. Physician was a choice for American Indians in 1978 only. In fact, there was little difference between the choices of career occupations of American Indian and Mexican American/ Chicano students in 1978. The career occupations selected by white/ Caucasian students were almost identical to those selected by American Indian students in 1966 and 1978. Engineer was selected as a probable career position by white/Caucasian students in all three years studied, and business executive, lawyer or judge, and undecided were selected for two out of three years. This was also true for American Indian students. The more noticeable differences in probable career choices for the three groups occurred in 1972.

Highest Degree Planned

The highest degree planned by American Indian entering freshman students in 1972 and 1978 is tabulated in Table 18. Similar information for Mexican American/ Chicano and white/Caucasian students is given in Tables 19 and 20.

More American Indian students aspired to the bachelors degree in 1972 and the bachelors and masters degrees in 1978. The percent who aspired to these degrees

Table 18. Highest degree planned by American Indian entering freshman students

Degree	1972 f	1972 %	1978 f	1978 %
None	29	7.1	10	2.7
Associate	42	10.2	18	4.8
Bachelors	123	29.9	103	27.5
Masters	103	25.1	103	27.5
Ph.D. or Ed.D	49	11.9	42	11.2
M.D., D.O., D.D.S., or D.V.M.	31	7.5	38	10.2
LL.B or J.D.	19	4.6	24	6.4
B.D. or M.Div. (Divinity)	1	0.2	5	1.3
Other	14	3.4	31	8.3
Total	411	99.9	374	99.9

Table 19. Highest degree planned by Mexican American/Chicano entering freshman students

Degree	1972 f	1972 %	1978 f	1978 %
None	142	6.7	55	2.6
Associate	248	11.7	86	4.1
Bachelors	652	30.7	553	26.4
Masters	544	25.6	706	33.7
Ph.D. or Ed.D.	212	10.0	279	13.3
M.D., D.O., D.D.S., or D.V.M.	152	7.1	219	10.5
LL.B. or J.D.	103	4.8	142	6.8
B.D. or M. Div. (Divinity)	3	0.1	6	0.3
Other	70	3.3	49	2.3
Total	2,126	100.0	2,095	100.0

Table 20. Highest degree planned by white/Caucasian entering freshman students

Degree	1972 f	1972 %	1978 f	1978 %
None	4,419	2.0	2,884	1.5
Associate	10,358	4.6	6,598	3.3
Bachelors	82,695	36.8	66,978	33.8
Masters	64,429	28.7	65,466	33.0
Ph.D. or Ed.D.	23,519	10.5	21,975	11.1
M.D., D.O., D.D.S., or D.V.M.	20,773	9.3	17,209	8.7
LL.B. or J.D.	13,230	5.9	12,741	6.4
B.D. or M. Div. (Divinity)	952	0.4	812	0.4
Other	4,058	1.8	3,690	1.9
Total	224,433	100.0	198,353	100.1

increased slightly from 1972 to 1978 with the same percent aspiring to both degrees in 1978. The bachelors and masters degrees were also aspired to by more Mexican American/Chicano and white/Caucasian students than any other degrees in 1972 and 1978. Divinity degrees were the least aspired for all three groups in both years. The other degrees planned were varied according to year and group. Mexican American/Chicanos were very comparable to American Indians in degrees planned for 1972 and 1978. White/Caucasian students were only slightly higher than American Indians in their bachelors and masters degree aspirations.

Types of Institutions

The types of institutions attended by American Indian entering freshman students appears in Table 21, along with information on Mexican American/Chicano and white/Caucasian entering freshman students. In 1966, a higher percentage of American Indian students attended universities (57.7 percent) with 21.2 percent attendance each at four-year and two-year institutions. In 1972, the situation was the same as 1966, although the percent of American Indians at universities decreased while the percent at four-year and two-year institutions increased. A big change occurred in 1978 with more American Indian students in attendance at four-year institutions (58.0 percent) than at universities (21.3 percent) and two-year institutions (20.7

Table 21. Type of institutions attended by entering freshman students

Type of Institution	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
American Indians						
University	679	57.7	223	42.0	105	21.3
Four-Year	249	21.2	154	29.0	286	58.0
Two-Year	249	21.2	154	29.0	102	20.7
Total	1,177	100.1	531	100.0	493	100.0
Mexican American/ Chicano						
University	N/A	N/A	568	20.3	966	37.4
Four-Year	N/A	N/A	511	18.3	1,121	43.4
Two-Year	N/A	N/A	1,714	61.4	497	19.2
Total			2,793	100.0	2,584	100.0
White/Caucasian						
University	139,655	62.9	107,218	41.3	89,000	37.5
Four-Year	60,622	27.3	108,793	41.9	115,512	48.6
Two-Year	21,653	9.8	43,844	16.9	32,961	13.9
Total	221,930	100.0	259,855	100.1	237,473	100.0

percent). Mexican American/Chicano students differed from American Indians in 1972 with more in attendance at two-year institutions (61.4 percent), 20.3 percent at universities and 18.3 percent attendance at four-year institutions. In 1978, their percentage in two-year institutions dropped to 19.2 and the type of institutions attended by Mexican American/Chicano students were basically the same as those attended by American Indian and white/Caucasian students. In 1966, white/Caucasian students attended universities (62.9 percent) more than the proportion that attended four-year or two-year institutions which was like American Indian students, but the proportion in attendance at four-year or two-year institutions differed from American Indian students. There was also a difference between the proportion of white/Caucasian and American Indian students attending two- and four-year institutions in 1972; there was little difference between the proportion of white/Caucasian and American Indian students attending universities.

Control of Institutions

Table 22 provides data on control of institutions attended by American Indian entering freshman students, as well as Mexican American/Chicano and white/Caucasian students in 1966, 1972, and 1978. In 1966, American Indian students attended more privately controlled institutions (80.5 percent) than publicly controlled (19.5 percent).

Table 22. Control of institutions attended by entering freshman students

Control	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
American Indians						
Public	229	19.5	392	73.8	256	51.9
Private	948	80.5	139	26.2	237	48.1
Total	1,177	100.0	531	100.0	493	100.0
Mexican American/ Chicano						
Public	N/A	N/A	2,236	80.1	1,027	39.7
Private	N/A	N/A	557	19.9	1,557	60.3
Total			2,793	100.0	2,584	100.0
White/Caucasian						
Public	70,279	31.7	153,302	59.0	110,027	46.3
Private	151,651	68.3	106,553	41.0	127,446	53.7
Total	221,930	100.0	259,855	100.0	237,473	100.0

This reversed itself in 1972 and 1978 when more American Indian students were in attendance at publicly controlled institutions. In 1978, the difference between American Indian students who attended public (51.9 percent) and private (48.1 percent) institutions was not as great as it was in 1966 and 1972. Mexican American/Chicano students' institutional choices were similar to American Indian students in 1972 with 80.1 percent in publicly controlled institutions, but they differed in 1978 significantly with more Mexican American/Chicano students in private institutions. More white/Caucasian students, like American Indian students, attended private institutions in 1966, and public institutions in 1972. In 1978, white/Caucasian students differed from American Indians with a larger percentage in private institutions.

Regions of Institutions

Table 23 analyzed data on regions of institutions attended by American Indian entering freshman students. It also provides similar data for Mexican American/Chicano and white/Caucasian students. In all three years studied, more American Indians attended institutions in the West than any other region, though this percentage decreased between 1966 and 1978. This was not surprising since more American Indians reside in the West than in any other region. In the

Table 23. Regions of institutions attended by entering freshman students

Region of Institution	1966 f	1966 %	1972 f	1972 %	1978 f	1978 %
American Indians						
East	176	15.0	113	21.3	136	27.6
Midwest	280	23.8	96	18.1	121	24.5
South	163	13.8	72	13.6	88	17.8
West	558	47.4	250	47.1	148	30.0
Total	1,177	100.0	531	100.1	493	99.9
Mexican American/ Chicano						
East	N/A	N/A	88	3.2	141	5.5
Midwest	N/A	N/A	248	8.9	41	1.6
South	N/A	N/A	34	1.2	342	13.2
West	N/A	N/A	2,423	86.8	2,060	79.7
Total			2,793	100.1	2,584	100.0
White/Caucasian						
East	57,402	25.9	93.085	35.8	98,836	41.6
Midwest	70,808	31.9	72,329	27.8	43,654	18.4
South	34,961	15.8	50,556	19.5	64,852	27.3
West	58,759	26.5	43,885	16.9	30,131	12.7
Total	221,930	100.1	259,855	100.0	237,473	100.0

same years, the South had the lowest percentage of American Indians though the percent increased slightly between 1972 and 1978. The East and Midwest were either second or third depending upon which year was observed. There was an increase of American Indians in the East between 1966 and 1978 with fluctuations in the Midwest. Mexican American/Chicano students were also found to attend more institutions in the West than other regions with a percentage decrease between 1972 and 1978. Again, this was not a surprise because Mexican American/Chicanos, like American Indians, have a concentrated population in the West. Mexican American/Chicano students' college attendance in other regions varied. There was a large increase of Mexican American/Chicano college attendance in the South between 1972 and 1978 and a decrease in attendance in the Midwest between 1972 and 1978. In the East, Mexican American/ Chicano attendance increased slightly during these same years. White/Caucasian students' college attendance was more evenly distributed among the different regions with increases in the South and East and decreases in the Midwest and West between 1966, 1972, and 1978.

Selection of a Particular College

Many reasons are noted as important by American Indian entering college freshman in 1972 and 1978 (Table 24).

Table 24. Reasons noted as very important in selecting a particular college by American Indian entering freshman students

Reason	1972 N	1972 f	1972 %	1972 N	1972 f	1972 %
My relatives wanted me to come here	483	60	12.4	459	37	8.1
I wanted to live away from home	483	89	18.4	N/A	N/A	N/A
This college has a very good academic reputation	480	225	46.9	464	255	55.0
This college has a good athletic program	481	69	14.3	N/A	N/A	N/A
I was offered financial assistance	479	168	35.1	453	132	29.1
Most of my friends are going to this college	481	34	7.1	N/A	N/A	N/A
Because of low tuition	478	73	15.3	449	53	11.8
Someone who had been here before advised me to go	480	100	20.8	451	68	15.1
Because of the special programs	480	134	27.9	455	169	37.1
I was not accepted anywhere else	478	20	4.2	433	18	4.2
My guidance counselor advised me to go	478	47	9.8	443	50	11.3
I wanted to live at home	478	45	9.4	446	41	9.2
My teacher advised me	N/A	N/A	N/A	456	35	7.7
A friend suggested attending	N/A	N/A	N/A	449	38	8.5
A college representative recruited me	N/A	N/A	N/A	444	40	9.0

Reasons given by Mexican American/Chicano and white/ Caucasian entering college freshmen are also tabulated in Tables 25-26.

Reasons selected by at least 20 percent of the American Indian students in 1972 are academic reputation of college (46.9 percent), financial assistance offered (35.1 percent), special programs (27.9 percent), and someone advised me to go (20.8 percent). In 1978, the reasons given were basically the same for American Indian students, but the order was different. Academic reputation of college was mentioned by 55.0 percent, special programs (37.1 percent), financial assistance offered (29.1 percent), and someone advised me to go was selected by 15.1 percent. Comparison of American Indian students with Mexican American/ Chicano and white/Caucasian students showed all three groups chose academic reputation of college as their reason for selecting a particular institution more than other reasons in 1972 and 1978. Other reasons selected by all three groups were financial assistance offered, special programs, and someone advised me to go. Reasons chosen with more frequency by Mexican American/Chicano and white/ Caucasian students, but with less frequency by American Indian students were low tuition, wanted to live at home, and wanted to live away from home.

Table 25. Reasons noted as very important in selecting a particular college by Mexican American/Chicano entering freshman students

Reason	1972 N	1972 f	1972 %	1978 N	1978 f	1978 %
My relatives wanted me to come here	2549	326	12.8	2447	156	6.4
I wanted to live away from home	2544	228	9.0	N/A	N/A	N/A
This college has a very good academic reputation	2551	1154	45.2	2465	1533	62.2
This college has a good athletic program	2533	285	11.3	N/A	N/A	N/A
I was offered financial assistance	2532	927	36.6	2426	849	35.0
Most of my friends are going to this college	2534	203	8.0	N/A	N/A	N/A
Because of low tuition	2522	510	20.2	2368	301	12.7
Someone who had been here before advised me to go	2532	533	21.1	2420	394	16.3
Because of the special programs	2521	772	30.6	2425	847	34.9
I was not accepted anywhere else	2506	83	3.3	2342	31	1.3
My guidance counselor advised me to go	2506	284	11.3	2402	299	12.4
I wanted to live at home	2518	492	19.5	2377	299	12.6
My teacher advised me	N/A	N/A	N/A	2421	175	7.2
A friend suggested attending	N/A	N/A	N/A	2388	189	7.9
A college representative recruited me	N/A	N/A	N/A	2372	226	9.5

Table 26. Reasons noted as very important in selecting a particular college by white/Caucasian entering freshman students

Reason	1972 N	1972 f	1972 %	1978 N	1978 f	1978 %
My relatives wanted me to come here	251,202	21,660	8.6	230,999	12,254	5.3
I wanted to live away from home	251,170	55,234	22.0	N/A	N/A	N/A
This college has a very good academic reputation	251,593	141,886	56.4	232,535	137,826	59.3
This college has a good athletic program	250,654	24,340	9.7	N/A	N/A	N/A
I was offered financial assistance	250,023	40,487	16.2	226,753	34,777	15.3
Most of my friends are going to this college	250,112	7,209	2.9	N/A	N/A	N/A
Because of low tuition	249,979	37,098	14.8	226,808	28,249	12.5
Someone who had been here before advised me to go	250,481	41,416	16.5	229,202	32,182	14.0
Because of the special programs	249,993	68,895	27.6	228,067	60,287	26.4
I was not accepted anywhere else	249,344	6,683	2.7	223,032	4,430	2.0
My guidance counselor advised me to go	249,586	14,086	5.6	226,603	13,568	6.0
I wanted to live at home	248,799	22,803	9.2	225,606	18,405	8.2
My teacher advised me	N/A	N/A	N/A	229,224	8,015	3.5
A friend suggested attending	N/A	N/A	N/A	226,441	14,375	6.3
A college representative recruited me	N/A	N/A	N/A	224,549	8,695	3.9

Factors Associated with College Entrance

This section contains data obtained from the NLS data files for base-year, first, second, and third follow-ups. It also provides data to answer research questions five and six on factors related to undergraduate college entrance.

American Indians

Table 27 examines data on factors that appear associated with entrance into college by American Indians. American Indians were classified into two groups based on those who entered college anytime between 1972 and 1976 and those not in college in 1972. A test of mean difference was performed on the two groups.

The results showed no significant difference between group means at the .05 probability level for work orientation, community orientation, and family orientation. Thus, it appeared that these factors were not associated with entrance into college by American Indian students. There was a significant difference between group means at the .01 probability level for locus of control and socioeconomic status. Self-concept was also significant at the .10 probability level for American Indian students. It appeared that locus of control, socioeconomic status, and self-concept were associated with entrance into college for American Indian students.

Table 27. Factors associated with entrance into college by American Indians

Factor	f	Mean	t-Value	Prob.
Work Orientation				
Group 1	102	2.5490	1.41	.163
Group 2	49	2.4387		
Community Orientation				
Group 1	102	2.1961	.24	.810
Group 2	49	2.1768		
Family Orientation				
Group 1	104	.9038	1.28	.204
Group 2	49	.8163		
Self-Concept				
Group 1	103	2.1578	1.70	.091[b]
Group 2	49	1.9796		
Locus of Control				
Group 1	105	3.2175	-3.38	.001[a]
Group 2	49	3.6820		
Socioeconomic Status				
Group 1	128	-.5867	-3.88	.000[a]
Group 2	65	-.1456		

Key: Group 1 = American Indians not in college
Group 2 = American Indians in college

[a]Significant at .01 level
[b]Significant at .10 level

Mexican American/Chicano

Data on factors associated with entrance into college by Mexican American/Chicano students is presented in Table 28. There appeared to be no significant difference between group means at the .05 probability level for work orientation, community orientation, and family orientation. These factors appeared not to be associated with entrance into college by Mexican American/Chicano students. Locus of control was significant at the .01 probability level, and self-concept and socioeconomic status were significant at the .10 probability level for Mexican American/Chicanos. These factors appeared associated with entrance into college for this particular group.

The findings showed similar results for Mexican American/Chicanos and American Indians on all factors analyzed. No significant difference between group means appeared on the factors of work orientation, community orientation, and family orientation for both groups. A significant difference did appear between group means for both groups on self-concept, locus of control, and socioeconomic status. Thus, the former factors appeared not associated with entrance into college for both groups, whereas, the latter factors appeared associated with actual entrance into college.

Table 28. Factors associated with entrance into college by Mexican American/Chicanos

Factor	f	Mean	t-Value	Prob.
Work Orientation				
Group 1	302	2.5949	.83	.408
Group 2	160	2.5698		
Community Orientation				
Group 1	299	2.2876	-1.32	.187
Group 2	160	2.3437		
Family Orientation				
Group 1	300	.9689	-1.56	.119
Group 2	160	1.0312		
Self-Concept				
Group 1	303	2.1394	1.69	.091[b]
Group 2	161	2.0347		
Locus of Control				
Group 1	301	3.3361	-4.92	.000[a]
Group 2	161	3.6988		
Socioeconomic Status				
Group 1	377	-.7448	-1.81	.070[b]
Group 2	188	-.6537		

Key: Group 1 = Mexican American/Chicanos not in college
Group 2 = Mexican American/Chicanos in college

[a]Significant at .01 level
[b]Significant at .10 level

White/Caucasians

Table 29 presents data on factors associated with entrance into college by white/Caucasian students. White/Caucasian students, like American Indians and Mexican American/Chicano students, were classified into two groups, based on a 10 percent random sample of white/Caucasians in school and not in school in fall 1972. A test of mean difference was performed on the two groups.

There appeared to be no significant difference between group means at the .05 probability level for work orientation, community orientation, and family orientation. A difference between group means appeared on self-concept, locus of control, and socioeconomic status. Work orientation, community orientation, and family orientation appeared not associated with entrance into college by white/Caucasian students, and self-concept, locus of control, and socioeconomic status appeared associated with entrance into college.

White/Caucasian students were similar to American Indian students on the factors of work orientation, community orientation, family orientation, self-concept, locus of control, and socioeconomic status.

Sources of Planned and Used Financial Aid

Table 30 provides data on sources planned and used to finance college by American Indian students. NLS

Table 29. Factors associated with entrance into college by white/Caucasians

Factor	f	Mean	t-Value	Prob.
Work Orientation				
Group 1	597	2.5154	1.21	.228
Group 2	544	2.4890		
Community Orientation				
Group 1	597	2.0790	-1.60	.109
Group 2	544	2.1222		
Family Orientation				
Group 1	597	.9023	-1.02	.310
Group 2	544	.9289		
Self-Concept				
Group 1	596	2.1725	4.21	.000[a]
Group 2	545	2.0096		
Locus of Control				
Group 1	596	3.6190	-10.40	.000[a]
Group 2	544	4.0279		
Socioeconomic Status				
Group 1	755	-.1745	-17.30	.000[a]
Group 2	676	.4119		

Key: Group 1 = White/Caucasians not in college
Group 2 = White/Caucasians in college

[a]Significant at .01 level

Table 30. Sources planned and used to finance college by American Indians

Sources	Planned f	Planned %	Used f	Used %
No Aid	32	49.2	12	23.1
Scholarship, Grants, and Other	5	7.7	7	13.5
Loans	0		0	
Individual Support	1	1.5	7	13.5
Savings or Earnings	3	4.6	6	11.5
Loans, Scholarships, Grants, and Other	0		0	
Individual Support, Loans	0		0	
Savings or Earnings, Individual Support	6	9.2	7	13.5
Savings or Earnings, Scholarships, Grants, and Other	4	6.2	5	9.6
Individual Support, Scholarships, Grants, and Other	2	3.1	2	3.8
Savings or Earnings, Loans	0		0	
Individual Support, Loans, Scholarships, Grants and Other	0		1	1.9
Savings or Earnings, Individual Support, Loans	2	3.1	1	1.9
Savings or Earnings, Individual Support, Scholarship, Grants, and Other	3	4.6	1	1.9
Savings or Earnings, Loans, Scholarships, Grants, and Other	2	3.1	0	
Savings or Earnings, Individual Support, Loans, Scholarship, Grants and Other	5	7.7	3	5.8
Total	65	100.0	52	100.0

base-year and first follow-up data were used to tabulate the findings. Data on Mexican American/Chicano and white/Caucasian students are given in Tables 31 and 32. The sources in the tables were organized into four basic headings and a combination thereof. The sources of financial aid included under each basic heading are:

Savings or Earnings

- Own savings or summer earnings
- College work-study programs
- Other earnings while taking courses

Individual support

- Parents
- Husband or Wife
- Other relatives or friends

Scholarships, Grants, or Other

- Basic educational opportunity grant program
- Supplementary educational opportunity grant program
- College scholarship or grant from college funds
- ROTC scholarship or stipend
- Nursing Scholarship Program
- Health Professions Scholarship Program
- State scholarships
- Other scholarships
- Law enforcement educational program
- Veterans Administration war orphans or survivors benefit programs
- Veterans Administration direct benefits (GI Bill compensation or pension)
- Vocational rehabilitation program benefits
- Social security benefits (for students aged 18-22 who are children of retired, disabled, or deceased parents)

Loans

- Federal guaranteed student loan programs
- State loan programs
- Regular bank loans

Table 31. Sources planned and used to finance college by Mexican American/ Chicanos

Sources	Planned f	Planned %	Used f	Used %
No Aid	45	23.9	22	11.7
Scholarship, Grants, and Other	1	.5	26	13.8
Loans	0		2	1.1
Individual Support	3	1.6	17	9.0
Savings or Earnings	6	3.2	19	10.1
Loans, Scholarships, Grants, and Other	6	3.2	7	3.7
Individual Support, Loans	1	.5	2	1.1
Savings or Earnings, Individual Support	19	10.1	29	15.4
Savings or Earnings, Scholarships, Grants, and Other	20	10.6	10	5.3
Individual Support, Scholarships, Grants, and Other	3	1.6	7	3.7
Savings or Earnings, Loans	5	2.7	3	1.6
Individual Support, Loans, Scholarships, Grants, and Other	1	.5	2	1.1
Savings or Earnings, Individual Support, Loans	13	6.9	4	2.1
Savings or Earnings, Individual Support, Scholarships, Grants, and Other	16	8.5	20	10.6
Savings or Earnings, Loans, Scholarships, and Other	30	16.0	12	6.4
Savings or Earnings, Individual Support, Loans, Scholarships, Grants, and Other	19	10.1	6	3.2
Total	188	99.9	188	99.9

Table 32. Sources planned and used to finance college by white/Caucasians

Sources	Planned f	Planned %	Used f	Used %
No Aid	178	26.3	84	12.4
Scholarships, Grants, and Other	7	1.0	18	2.7
Loans	1	.1	3	.4
Individual Support	30	4.4	108	15.9
Savings or Earnings	12	1.8	54	8.0
Loans, Scholarships, Grants, and Other	0		5	.7
Individual Support, Loans	4	.6	6	.9
Savings or Earnings, Individual Support	181	26.7	198	29.2
Savings or Earnings, Scholarships, Grants, and Other	16	2.4	25	3.7
Individual Support, Scholarships, Grants, and Other	10	1.5	22	3.2
Savings or Earnings, Loans	6	.9	8	1.2
Individual Support, Loans, Scholarships, Grants, and Other	1	.1	8	1.2
Savings or Earnings, Individual Support, Loans	58	8.6	20	3.0
Savings or Earnings, Individual Support, Scholarships, Grants, and Other	75	11.0	70	10.3
Savings or Earnings, Loans, Scholarships, Grants, and Other	28	4.1	22	3.2
Savings or Earnings, Individual Support, Loans, Scholarships, Grants, and Other	71	10.5	27	4.0
Total	678	100.0	678	100.0

National defense (direct) student loan program
Health professions student loan program
Nursing student loan program

More American Indian students indicated <u>no aid</u> (49.2 percent) as they planned to finance their college education. This was by far the largest percentage of students who indicated <u>no aid</u> among the groups studied. Although a variety of sources were planned and used by American Indian students as reported in Table 30, it was not the wide variety planned and used by Mexican American/-Chicano or white/Caucasian students.

<u>No aid</u> was also reported by more Mexican American/Chicanos students (23.9 percent) as they planned their college education. Mexican American/Chicano students planned and used a variety of sources as reported in Table 31. Loans were the only source not planned by Mexican American/Chicanos, but it was actually used. Loans were also not planned by American Indian students, and they did not report any use of loans.

Savings or Earnings, Individual Support (26.7 percent) and <u>no aid</u> (26.3 percent) were the two most planned sources for white/Caucasian students. Savings or Earnings, along with Individual Support and Individual Support alone were the two most frequently used sources. A wide variety of sources were planned and used by white/Caucasian students, and they were very similar to sources planned and used by American Indian students.

College Beyond Year One

The number of students who continued college beyond year one is presented in Table 33. The table also provides data on students who planned and attended college.

Sixty-five American Indian students planned to attend college in spring 1972, but only 52 were in attendance in fall 1972. Thirty-seven American Indian students continued college into year two. Thus, 80 percent of those who planned to attend college actually did, and 71.2 percent of those who attended continued into year two. There were 188 Mexican American/Chicano students who planned and actually attended college with 70.2 percent continuing into year two. White/Caucasian students were similar with 678 who planned and attended college, and 76.7 percent who continued. More American Indian students planned to attend college than actually did compared to Mexican American/Chicano and white/Caucasian students, but all three groups had at least 70 percent of those who attended continuing into year two.

This chapter presented the findings based on data from the CIRP and NLS studies. Conclusions drawn from these findings will be discussed in Chapter Five.

Table 33. Students who continued college beyond year one by race/ethnic group and type of institution

Race/Ethnic Group	Planned f	Planned %	Attended f	Attended %	Continued f	Continued %
American Indians						
Four-Year	31	47.7	24	46.2	19	51.4
Two-Year	34	52.3	28	53.8	18	48.6
Total	65	100.0	52	100.0	37	100.0
Mexican American/ Chicanos						
Four-Year	90	47.9	90	47.9	67	50.8
Two-Year	98	52.1	98	52.1	65	49.2
Total	188	100.0	188	100.0	132	100.0
White/Caucasians						
Four-Year	491	72.4	491	72.4	399	77.0
Two-Year	187	27.6	187	27.6	119	23.0
Total	678	100.0	678	100.0	518	100.0

CHAPTER 5

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Many American Indians have realized the importance of higher education, and they have entered higher education in increasing numbers since 1960. This study has provided information on American Indian college students and factors related to their undergraduate entrance into college.

Summary

The purposes of this study were to identify selected characteristics of American Indian entering freshman students and to identify selected factors related to the increasing number entering two- and four-year colleges or universities. In addition, the identified characteristics and factors were compared with a sample of Mexican American/Chicanos and in selected areas with other white/ Caucasians to determine similarities and differences between the three groups.

To achieve the purposes of this study, six research questions were formulated and examined. Data were extracted from two national studies, the Cooperative Institutional Research Project's (CIRP) annual freshmen surveys for fall

1966, 1972, and 1978, and the National Longitudinal Study of the High-School Class of 1972 (NLS).

Data on the selected characteristics and factors were analyzed using descriptive and comparative statistical procedures. The descriptive statistical procedures used were frequency counts and percentages, and the comparative procedure was the t-test for significance. The findings were tabulated and put into tables which appeared in Chapter Four. A summary of the findings are presented below. This will be followed by conclusions which derive from these findings.

1. There were more male American Indian entering freshman students in 1966 than females, but the reverse was true in 1972 and 1978. White/Caucasian students were similar to American Indians in 1966 and 1978. Mexican American/Chicanos were similar to American Indians in this aspect of the study in 1978. In 1972, Mexican American/Chicanos and white/Caucasians were more male than female which was different from American Indians.
2. The largest proportion of American Indians, Mexican American/Chicano, and white/Caucasian entering freshman students were eighteen years old in all years studied. American Indians had the largest proportion of students 21 years or older in 1966, 1972, and 1978.
3. The highest percentage of American Indians ranked in the second quartile of their high-school graduating

class in 1972, and the top quartile in 1978. Mexican American/Chicanos were similar to American Indians in both years, but white/Caucasian students tended to rank in the top quartile in 1972 and 1978.

4. More American Indian entering freshman students indicated <u>some concern</u> about their ability to finance college than those reporting <u>no concern</u> or <u>major concern</u>. This was also true for Mexican American/Chicano and white/Caucasian students in all years studied.

5. The majority of American Indian entering freshman students reported their enrollment status as full-time in 1972 and 1978. This was also true for Mexican American/Chicano and white/Caucasian students.

6. A larger percentage of American Indians indicated they desired no academic help in English, reading, mathematics, social science, science, and foreign language than those desiring help in 1972 and 1978. The same was true for Mexican American/Chicano and white/Caucasian students in both years.

7. More American Indian entering freshman students reported probable majors in the fields of business, arts and humanities, social science, professional areas, and other fields in 1966, 1972, and 1978. Mexican American/Chicanos were similar to American Indians in their selection of major fields of study in 1972 and 1978. White/Caucasian choices of majors were more

similar to those selected by American Indians in 1978 than 1966 or 1972.

8. The probable careers initially selected by American Indians, Mexican American/Chicanos, and white/Caucasians in 1966 and 1978 were almost identical. In 1972, there were many differences. Engineer was the only probable career position chosen by American Indians in all three years studied. Business executive, lawyer or judge, nurse, and undecided were all chosen by American Indians in two of the three years studied.

9. The largest percentage of American Indians aspired to the bachelors degree in 1972 and the bachelors and masters degrees in 1978. This was also true for white/Caucasians in both years. Mexican American/Chicanos were similar to American Indians in 1972, but they differed in 1978 with a slightly larger percentage aspiring to the masters degree.

10. A higher percentage of American Indians attended universities in 1966 and 1972, but this changed in 1978 to four-year institutions. White/Caucasian students were similar to American Indians in 1966 and 1978, but there was an equal percentage attending universities and four-year institutions in 1972. Mexican American/Chicanos reported attending two-year institutions in 1972, and like the other groups, they attended four-year institutions in 1978.

11. American Indians reported they attended more privately controlled institutions in 1966 than publicly controlled, but this reversed in 1972 and 1978. Mexican American/Chicanos indicated they attended more publicly controlled institutions in 1972 and more privately controlled in 1978. White/Caucasians were similar to American Indians in 1966 and 1972, but they attended more privately controlled institutions in 1978.

12. In all three years studied, American Indians reported attending more institutions in the West than any other region. Yet, the percentage decreased between 1966 and 1978. There was an increase in the percentage of American Indians in the East and South in these specific years and fluctuations in the Midwest. By far, the majority of Mexican American/Chicanos attended institutions in the West, but their percentage in the South also increased between 1972 and 1978. White/Caucasian students were more evenly distributed among regions.

13. More American Indians, Mexican American/Chicanos, and white/Caucasians selected a particular college because of academic reputation of college, financial assistance offered, special programs, and <u>someone advised me to go</u> though not necessarily in the same order.

14. The NLS data showed no significant difference between group means on work orientation, community orientation,

and family orientation at the .05 probability level for all three groups studied.

15. Self-concept was significant for American Indians and Mexican American/Chicanos at the .10 probability level. Self-concept was significant for white/Caucasians at the .01 probability level.
16. Locus of control and socioeconomic status were both shown to be significant at the .01 or .10 level for all three groups studied.
17. More American Indian students reported they expected <u>no aid</u> to finance college than Mexican American/ Chicanos and white/Caucasians. However, a wide variety of sources were used by all three groups with white/ Caucasians similar to American Indians on many sources used.
18. More American Indians planned to attend college than actually did compared to Mexican American/Chicanos and white/Caucasians. Yet, all three groups had at least 70 percent of those who attended college continue into year two.

Conclusions

The conclusions were drawn from the findings of this study. The findings indicate major conclusions (1) regarding American Indian entering college students and the changes that occurred between 1966 and 1978 and

(2) similarities to Mexican American/Chicano and white/ Caucasian students during the same years and differences with either or both of these groups.

American Indian Entering College Students

1. More American Indian entering freshman students were male than female in 1966. This changed in 1972 to more female than male and remained so in 1978. More American Indian women are entering higher education than men. This could be the result of many factors, including a better self-concept, more ambition, better acclimation to the non-Indian world, the opening of higher education to women, or just a higher proportion of women in the total Indian population.
2. At least 50 percent of the American Indian entering freshman students were eighteen years old in all three years studied. American Indians also had the largest proportion of students older than 21 in 1966, 1972, and 1978. The data indicated more American Indians are entering and proceeding through the education system at the appropriate ages, but there are still Indians entering higher education at an older age.
3. The largest percentage of American Indian entering freshmen ranked in the second quartile of their high-school graduating class in 1972. In 1978, the largest percentage of American Indians ranked in the top

quartile. American Indians seem to be improving academically, but this would depend upon whether American Indians were ranked against other Indian students, a mixture of Indians and non-Indians, or all white students.

4. The majority of the American Indian entering freshman students indicated <u>some concern</u> about their ability to finance a college education. This was true in all three years studied. Previous research has shown finances to be of prime importance to American Indian college students. <u>Some concern</u> reported by American Indians may suggest that upon entering college many are unaware of the potential magnitude of financial concerns to their persistence in college, or only the more affluent are going to college.

5. By far, the majority of American Indian entering freshmen enrolled as full-time students in 1972 and 1978. This is probably due, in part, to the requirement of grants or scholarships that many American Indians depend upon to enter and persist in college, or that most colleges and universities are beyond commuting distance for these particular students.

6. Overall, American Indian entering freshman students indicated no need for special help in English, reading, mathematics, social science, science, and foreign language in 1972 and 1978. This does not agree with

previous research on American Indian students in higher education which has shown them to have academic problems in many of the areas mentioned above. American Indians may be ashamed or too proud to admit their need for academic help upon entering college, or they are not aware of the competency level required.

7. The largest proportion of American Indians selected majors in the fields of business, arts and humanities, social science, professional areas, and other fields in 1966, 1972, and 1978. The data implied a broadening of interest and opening up of a number of fields of study to American Indians. They also implied that American Indians are continuing to select majors in nonscientific fields of study.

8. In order of frequency, the reported probable careers chosen by American Indian entering freshman students in 1966 were teacher or administrator (secondary), engineer, teacher or administrator (elementary), and business executive. In 1972, undecided, nurse, social worker, engineer, and lawyer were the initial selections. Undecided, other, physician, lawyer or judge, engineer, business executive, and nurse were the probable careers reported in 1978. Engineer was the only probable career position chosen in all three years. The data attest, once again, the opening of a wide variety of professional careers to American Indians.

9. The highest degree planned by American Indian entering freshman students was the bachelors degree in 1972 and the bachelors and masters degrees in 1978. More American Indians seem to be aspiring to graduate studies, as well as undergraduate work, which may mean they are establishing higher goals for themselves and entering fields requiring graduate study.
10. A high proportion of American Indian entering freshmen attended universities in 1966 and 1972 and four-year institutions in 1978. The shift from attendance at universities to attendance at four-year institutions may have resulted from adjustment problems at large institutions, cost of attendance at universities, academic demands at universities, active recruitment of American Indian students by more diverse groups of institutions, or the proximity of the university to Indian populations. Curricular offerings at four-year institutions may also be preferred by American Indian students.
11. American Indian entering freshmen attended, by far, more privately controlled institutions in 1966 (80.5 percent), as recorded in the CIRP data file. This changed in 1972 and 1978 when a larger percentage of American Indians attended publicly controlled institutions. Since financial concerns are important to many American Indian students, the cost of attending private

institutions is probably the major reason for attending public institutions. Another reason may be that public institutions recruited American Indians more actively during this period.

12. American Indian entering freshman students attended more higher educational institutions in the West than any other region for all years studied. This indicates American Indians are entering colleges close to home or seeking colleges with or close to Indian populations. The largest population of American Indians reside in the West.

13. Academic reputation of college, financial assistance offered, special programs, and <u>someone advised me to go</u> were major reasons given by American Indian entering freshman students for attending a particular institution in 1972 and 1978. This suggests that American Indians are concerned about the quality of the institutions, as well as financial assistance, special programs, and opinions of significant others.

14. Work orientation, community orientation, and family orientation were not associated significantly with entrance into college by American Indian students. Thus, whether one is goal orientated toward work, community, or family is not significantly related to the college attendance decision.

15. Self-concept, locus of control, and socioeconomic status were all associated with entrance into college by American Indian students. The data confirms an association of self-concept and locus of control to academic achievement by American Indians which was proposed by Harris (1979). Socioeconomic status was also shown significant to college entrance which was expected since financial concerns have been shown in previous research to be a major concern to American Indian college students.

16. More American Indians (49.2 percent) indicated <u>no aid</u> as they planned to finance their college education than indicated they had other sources of aid. The major sources actually used to finance their college by American Indian students were varied with many combinations of sources. Financial aid has been shown to be a serious problem for American Indians. The data indicated financial aid for American Indians is inadequate, or American Indian students are unaware of the sources of financial aid available to them.

17. More American Indians planned to attend college than actually entered college. Educational aspirations did not materialize for some American Indians. This may have been the result of economic concerns, family commitments, or other unforeseen matters.

Comparisons of American Indian, Mexican American/Chicano and white/Caucasian Entering College Students

Findings of this study have demonstrated that there are a number of important differences and similarities between the three groups studied. These are as follows:

1. The reported proportion of females and males among American Indian and white/Caucasian entering freshman students was the same in 1966 and 1978. Mexican American/ Chicano entering freshman students were also more apt to be female than male in 1978. In 1972, a larger proportion of Mexican American/Chicano and white/Caucasian students indicated they were more male than female which was not the case for American Indian students.
2. For all three groups, at least 50 percent of the entering freshmen were eighteen years old in all years studied. American Indians had the largest percentage of students who reported they were 21 years or older compared to the other two groups.
3. The rank in high-school graduating class was the same for American Indians and Mexican American/Chicano students in 1972 and 1978. White/Caucasians were similar to American Indians in rank in 1978. White/Caucasian students ranked in the top quartile of their graduating

classes in all years studied, but this was not true for the majority of American Indian students in 1972.

4. The largest proportion of all three groups studied indicated some concern about their ability to finance a college education in 1972 and 1978, rather than a major concern. Approximately 70.0 percent of American Indian students indicated major concern or some concern in 1972 and 1978 which was more than reported by white/Caucasian students. Major concern increased 15.3 percentage points for American Indians between 1966 and 1978. Mexican American/Chicano and white/Caucasian students did not increase in the same way. This was probably the result of rising tuition and residential costs and larger numbers of low socioeconomic status students entering college.
5. The major enrollment status of all three groups tested was full-time in all years studied.
6. All three groups indicated no need for academic help in English, reading, mathematics, social science, science, and foreign language in the years studied. This finding for American Indian students is very different from what all other studies have reported.
7. Mexican American/Chicanos were similar to American Indians in 1972 and 1978 by reporting more majors in professional areas, business, social science, arts and

humanities, and other fields. White/Caucasian entering freshman students' choices of majors were more similar to American Indians in 1978 than in 1966 or 1972. Nonscientific majors were selected more often by all three groups in 1966, 1972, and 1978.

8. Mexican American/Chicano entering freshman students were similar to American Indians in the selection of probable careers in 1978, and white/Caucasians were very similar to American Indians in 1966 and 1978. Generally, all three groups differed on probable careers in 1972.
9. All three groups aspired to the bachelors degree in 1972, and overall, white/Caucasians and American Indians were similar in the highest degrees planned in 1978. Mexican American/Chicano entering freshman students were dissimilar to American Indian entering freshmen in 1978, since the largest proportion of them stated they planned on achieving the masters degree.
10. The largest percentage of all three groups attended four-year institutions in 1978. A majority of both white/Caucasian and American Indian entering freshman students attended universities in 1966. A majority of Mexican American/Chicano entering freshman students attended two-year institutions in 1972 which was not the case for American Indians.

11. In all three groups, a majority attended publicly controlled institutions in 1972. As reported earlier, a majority of white/Caucasians and American Indians attended privately controlled institutions in 1966. In 1978, the largest number of Mexican American/Chicano and white/Caucasian entering freshman students tested were in privately controlled institutions. However, as reported earlier, a majority of the American Indian students attended publicly controlled institutions in 1978. Also in 1978, a majority of all higher education students attended publicly controlled institutions. The anomaly in the CIRP data can only be accounted for by possible bias in the institutions in the sample.
12. A larger proportion of American Indian and Mexican American/Chicano entering freshman students attended institutions in the West than in all other regions in the three years studied. White/Caucasian entering freshman students were more evenly distributed among the various regions.
13. The reasons indicated most frequently by all three groups for attending a particular institution in 1972 and 1978 were identical though not necessarily in the same order of importance. The most important reason appeared to be reported academic quality of institution, but this reason was not as important to American

Indian students as it was for white/Caucasian students. Almost twice the percentage of American Indian students as white/Caucasian students were offered financial aid. American Indian students also seem to rely more heavily on the opinions of significant others than white/Caucasian students.

14. Work orientation, community orientation, and family orientation were not associated with entrance into college by all three groups studied. All three groups, reported that self-concept, locus of control, and socioeconomic status were associated with entrance into college. Self-concept was found to be significant at the .10 probability level for American Indians and Mexican American/Chicanos and at the .01 probability level for white/Caucasians. Locus of control was significant for all three groups at the .01 probabilty level. Socioeconomic status was significant for American Indians and white/Caucasians at the .01 probabilty level, and at the .10 probability level for Mexican American/Chicanos.

15. The largest percentage of American Indian and Mexican American/Chicano students reported no aid in planning to finance their college education. This was not the case for white/Caucasian students. A larger percent of American Indians reported no planned or used aid than

Mexican American/Chicano and white/Caucasian students. However in the area of actual scholarship grants awarded, the percentage of American Indian and Mexican American/Chicano students receiving scholarships was much higher than the percentage of white/Caucasian students.

16. For all three groups, at least 70 percent of those who entered college continued into year two. More American Indians indicated they planned to go to college than actually entered college. This was not true for the other two groups.

Although there were some clear differences, there were generally more similarities between American Indian, Mexican American/Chicano, and white/Caucasian entering college students. Mexican American/Chicanos were more similar than different to American Indians on their reported responses to questions about age, high-school rank, concern about finances, enrollment status, academic help needed, region of institutions attended, probable major fields, reasons for selecting a particular institution, and factors related to entrance into college. White/Caucasian students were more similar to American Indians in age, concern about finances, enrollment status, acadmemic help needed, highest degree planned, reasons for selecting a particular institution, and factors related to entrance into college.

Overall, the differences between the three groups occurred in the reported responses to sex, probable careers, type of institution attended, and control of institution attended. In addition, white/Caucasian students differed on high-school rank, probable major fields, and region on institutions attended. Mexican American/Chicano students also differed on highest degree planned in 1972. Nevertheless, clearly there were more similarities than differences between the three groups, particularly in 1978. In 1966 to 1978, American Indian entering students became much more similar in their characteristics as compared with the other two groups.

Recommendations

In the conduct of this study, a number of potential additional research problems have appeared. In some cases these result from limitations on the data from the Cooperative Institution Research Program and the National Longitudinal Study of High-School Class of 1972. In others, incongruities in the responses raised some questions which were beyond the parameters of this current study. A few of the most important of these possible research areas are recommended below.

1. The CIRP data are reported separately for women and men, types of institutions, and geographic regions after 1966. Research on the American Indian entering

freshman student could be conducted using different criteria and time periods. For example, American Indians could be broken down into subgroups of male and female.

2. The CIRP data file contains information on students who identified themselves as American Indians plus other racial/ethnic groups. Further research might be conducted to compare American Indians and American Indians of mixed heritage on selected characteristics to determine similarities and differences between these two groups.
3. The small number of American Indians who attended college in the NLS file might be studied in detail to determine the characteristics and experiences of these students through the years. It could be quite useful to carry on case studies of the sixty-five American Indian students who entered college full-time between 1972 and 1976.
4. More research needs to be conducted on American Indian college students at various levels of higher education. In general, research on the American Indian college student is not plentiful. For example, a very useful additional study is needed to determine the special help provided for American Indian students and the use of this help. Although they reported, in the main, no

need for special help in such fields as English, reading, mathematics, social science, science, and foreign language, previous research indicates it is badly needed.

Although various studies have been conducted in various regions and at a number of institutions, there is still limited data on American Indian college students, especially current data. This researcher has attempted to study some of the changes that have taken place for entering college students over time. It is hoped this preliminary baseline study will lead to further research in this relatively wide open field.

No typical American Indian college student exist, and this study does not propose such an idea. The findings of the study do reflect the limitations of the data from the CIRP and NLS studies. A number of important conclusions appear fully justified on the basis of the available data. Nevertheless, generalizations based on the findings from this study to other American Indian college students should be made with grave caution.

REFERENCES

A Study of Selected Socioeconomic Characteristics of Ethnic Minorities Based on the 1970 Census, Vol. 3: American Indians. A Report Prepared for the U.S. Department of Health, Education and Welfare: Arlington, Virginia, Urban Associates, 1974.

Abdel-Mawgood, Mohammed E., and Glen Hatch. "The Self-Concept of Academic Ability Among American Indian Students." A Research Report, Ellensburg, Washington: Central Washington State College, 1973. (ERIC ED 167 295).

Age, Sex, Race, and Spanish Origin of the Population by Region, Divisions, and States: 1980. Supplementary Report. U.S. Department of Commerce, Bureau of the Census, U.S. Government Printing Office: Washington, D.C. 1981.

American Indian Policy Review Commission: Final Report, Vol 2, United States Congress, U.S. Government Printing Office: Washington, D.C., 1977.

Artichoker, John Jr. and Neil M. Palmer. The Sioux Indian Goes to College: An Analysis of Selected Problems of South Dakota Indian College Students. Vermillion, South Dakota: University of South Dakota, 1959.

Astin, Alexander W., Margo R. King, and Gerald T. Richardson. The American Freshman: National Norms for Fall 1977. Los Angeles: Cooperative Institutional Research Program of American Council on Education and the University of California, Los Angeles, 1977.

Aurbach, Herbert A., Estelle Fuchs, and Gordon Macgregor. "The Status of American Indian Education." An Interim Report of the National Study of American Indian Education to the Office of Education, U.S. Department of Health, Education and Welfare. University Park, Pennsylvania. Pennsylvania State University, January 1970.

Bass, Willard P. The American Indian High-School Graduate in the Southwest. Albuquerque: Southwestern Cooperative Education Laboratory, 1969.

Bass, Willard P., and Marian J. Tonjes. "Dropout or Graduate? A Synthesis of Three Studies on the Degree of Success of American Indian High-School Students in the Southwest." Albuquerque: Southwestern Cooperative Educational Laboratory, 1970. (ERIC ED 036 369).

Bischof, Ledford J. Adult Psychology. 2nd ed. New York: Harper and Row, 1976.

Boutwell, Richard C., William C. Low, Kristin Williams, and Thomas Proffit "A Comparison of Attitudes and Values Between Indians and Non-Indians in an Institution of Higher Education." Washington, D.C.: National Center for Educational Research and Development, 1972. (ERIC ED 073 894).

Bryde, John F. The Indian Student: A Study of Scholastic Failure and Personality Conflict. Vermillion, South Dakota: Dakota Press, 1970.

Buef, Ann H. "The Home of Whose Brave? Problems Confronting Native Americans in Education." Journal of National Association for Women Deans, Administrators, and Counselors, 39 (1976), 70-80.

Catalog of Federal Domestic Assistance. Executive Office of the President, Office of Management and Budget, U.S. Government Printing Office: Washington, D.C., 1981.

Chavers, Dean. "The Feasibility of an Indian University at Bacone College." A Report to Board of Trustees. Muskogee, Oklahoma: Bacone College, 1979.

Coleman, James S., E. Q. Campbell, E. J. Hobson, J. McPartland, A. M. Mood, F. D. Weinfield, and R. L. York. Equality of Educational Opportunity. U.S. Government Printing Office: Washington, D.C., 1966.

Cooper, James G. "Perception of Self and Others as a Function of Ethnic Group Membership." 1971. (ERIC ED 857 965).

Crossland, Fred E. Minority Access to College. A Ford Foundation Report. New York: Schocker Brooks, 1971.

Data Base Documentation. Report by National Center for Education Statistics, U.S. Government Printing Office: Washington, D.C., 1972.

Dearman, Nancy B., and Valena White Plisko. The Condition of Education. Statistical Report for National Center for Education Statistics, U.S. Government Printing Office: Washington, D.C., 1981.

Dreyer, Phillip H., and Robert J. Havighurst. "The Self-Esteem of American Indian Youth." The Personal-Social Adjustment of American Indian Youth. Final Report National Study of American Indian Education. Chicago: University of Chicago, November 1970. (ERIC ED 045 276).

Fuchs, Estelle, and Robert J. Havighurst. To Live on This Earth. New York: Anchor Press, 1973.

Glass, Gene V., and Julian C. Stanley. Statistical Methods in Education and Psychology. Englewood Cliffs, New Jersey: Prentice-Hall, 1970.

Graham, Melvern Eugene. "Relationship of the Self-Concept to Selected Measures of Performance Among Male Navajo Students at Intermountain School." Masters Thesis, Utah State University, 1971. (ERIC ED 079 007).

Grant, Vance W., and Leo J. Eiden. Digest of Education Statistics 1980. National Center for Education Statistics, U.S. Government Printing Office: Washington, D.C., 1980.

__________. Digest of Education Statistics 1981. National Center for Education Statistics, U.S. Government Printing Office: Washington, D.C., 1981.

Graves, T. D., "Time Perspective and the Deferred Gratification Pattern in a Tri-Ethnic Community." Ph.D. Dissertation, University of Pennsylvania, 1961.

Hamblin, John R. "A Study of Some of the Important Factors Which Encourage Indian Students in the Apache and Navajo Counties in Arizona to Seek a Higher Education After High-School Graduation." Masters Thesis, Brigham Young University, 1963.

Harris, Leighanne. "Characteristics of Self-Regard, Locus of Control, and Academic Achievement of Selected American Indian Students in Higher Education." Ph.D. Dissertation, University of Washington, 1979.

Hathhorn, James R. "A Comparative Study of Factors Related to Post High-School Education Pursuits of Selected American Indians: Some Characteristics and Self Perceptions." Ed.D. Dissertation, Oregon State University, 1971.

Havighurst, Robert J. "Indian Education: Accomplishments of the Last Decade." Phi Delta Kappan, 62 (1981), 329-331 .

Heaps, Richard A., and Stanley G. Morrill. "Comparing the Self-Concepts of Navajo and White High-School Students." Journal of American Indian Education, 18 (1979), 12-14.

Higher Education Evaluation: Student Characteristics and Opinions. Research and Evaluation Report Series No. 21-A: United States Department of the Interior, Bureau of Indian Affairs, Albuquerque, New Mexico, 1973.

Hoffman, Dean Kay. "Relationship of Self-Concept and Academic Self-Assessment to the Educational Aspirations of Underprivileged Adolescent Indians." Ph.D. Dissertation, Florida State University, 1968.

Indian Education: A National Tragedy--A National Challenge. Report on the Committee on Labor and Public Welfare, United States Senate, U.S. Government Printing Office: Washington, D.C., 1969.

Indian Students in Minnesota's Private Colleges. St. Paul: Minnesota Private College Research Foundation Indian Education Project, March 1974. (ERIC ED 088 633).

Kleinfeld, Judith. "Alaska Native Students and College Success." ISER Occasional Paper No. 14. Fairbanks: University of Alaska, 1978. (ERIC ED 165 960).

Kohout, Karen, and Judith Kleinfeld. Alaska Natives in Higher Education. Fairbanks: University of Alaska, 1974.

Larson, Wayne L. "A Comparison of the Differential Effect of Ethnicity and Perception of Family Income on Educational Aspirations, Preparation and Parental Influence--Attempts of Indian and Non-Indian Students in Four Rural High Schools in Montana." Bozeman, Montana: Montana State University, October 1971. (ERIC ED 056 789)

Levinsohn, Jay, Louise B. Henderson, John A. Riccobono, and R. Paul Moore. National Longitudinal Study: Base Year, First, Second, and Third Follow-up Data File Users Manual. Research Triangle Park, North Carolina: Center for Educational Research and Evaluation Research Triangle Institute, January 1978.

Locke, Patricia. "A Survey of College and University Programs for American Indians." Boulder, Colorado: Western Interstate Commission for Higher Education, 1974.

Mackey, Duane H. "A Study of the Locus of Control Construct with Implications for Counseling American Indian College Students." Ed.D. Dissertation, University of South Dakota, 1979.

Martig, Roger, and Richard De Blossie. "Self-Concept Comparisons of Anglo and Indian Children." Journal of American Indian Education, 12 (1973), 9-16.

Martin, James C. "Self-Confidence of Selected Indian Students." Journal of American Indian Education, 13 (1974), 32-34.

__________. "Locus of Control and Self-Esteem in Indian and White Students." Journal of American Indian Education, 18 (1978), 23-29.

McGrath, G. D., Robert Roessel, Bruce Meador, G. C. Helmstadter, and John Barnes. Higher Education of Southwestern Indians with Reference to Success and Failure. Tempe, Arizona: Arizona State University, 1962.

Medicine, Bea. "Higher Education: A New Arena for Native Americans." In Education of Native Americans Today, ed., Dehayne R. Triplett, and Joseph R. Ellis, 1978. (ERIC ED 165 949).

Monsen, Marie A. "Higher Education Evaluation: Analysis and Comparison of Evaluative Data." Research and Evaluation Report Series No. 20. Washington, D.C.: Division of Program Review and Evaluation, Office of Indian Education Programs, December 1973.

Morrison, William T. "A Statistical Portrait of the American Indian in 1976." Report for the Intra-Departmental Council on Indian Affairs, Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, 1976. (ERIC ED 135 556).

Munro, Fern H. "Laguna-Acoma High-School Alumni, Classes of 1964 Through 1974: Who Have Earned Bachelors' Degrees." Laguna-Acoma High School, New Mexico, 1978. (ERIC ED 164 196).

Nie, Norman H., C. Hadlai Hall, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent. Statistical Package for the Social Sciences, 2nd Edition. New York: McGraw-Hill, 1975.

Noon, John. The Navajo Way: From High School to College. Window Rock, Arizona DNA Legal Services, Inc., 1975. (ERIC ED 124 355).

Panitz, Emanuel. American Inidians and Minnesotas' Private Colleges. An Evaluation of the Minnesota Private College Research Foundation's Indian Education Project, 1971-72, 1974-75. St. Paul: Minnesota Private College Research Foundation, 1976. (ERIC ED 129 488).

Patton, Walter S. "An Investigation of Selected Factors Related to Persistence of American-Indian Students at Two New Mexico Universities." Ed.D Dissertation, New Mexico State University, 1972. (ERIC ED 082 905).

Race of the Population by States: 1980. Supplementary Report. U.S. Department of Commerce, Bureau of the Census, U.S. Government Printing Office: Washington, D.C., 1981.

Richards, Harry J. "An Identification of American Indian Students Enrolled at Selected Institutions of Higher Education in the State of Florida During the 1976-77 Academic Year: A Study of their Characteristics, Aspirations, Needs, and Attitudes." Ph.D. Dissertation, Florida State University, 1978.

Rotter, Julian B. Social Learning and Clinical Psychology. Englewood Cliffs, New Jersey: Prentice Hall, 1954.

__________. "Generalized Expectancies for Internal Versus External Control of Reinforcement." Psychological Monographs, 80 (1966), No. 1, 1-28.

Rotter, Julian R., Jane E. Chance, and E. Jerry Phares. Applications of a Social Learning Theory of Personality. New York: Holt, Rinehart, and Winston, 1972.

Ryan, Robert Anthony. "An Investigation of Personality Traits of Native American College Students at the University of South Dakota." Ed.D. Dissertation, University of South Dakota, 1973.

Selinger, Alphonse D. "The American Indian Graduate: After High School What?" Portland, Oregon: Northwest Regional Educational Laboratory, November 1968. (ERIC ED 026 165).

Tesche, Allan, Andrea Kelsey, Titus Frenchman, W. David Haggerty, Vicki Doerper, and John M. Winkworth." The Native American Experience." Research Report No. 1, Office for Student Affairs, Research and Evaluation. Davis, California: University of California, 1974. (ERIC ED 156 067).

Tyler, J. D., and D. N. Holsinger. "Locus of Control Differences Between Rural American Indian and White Children." Journal of Social Psychology, 95 (1975), 149-155.

Vocational Preparation and Race in Michigan Higher Education. Lansing, Michigan: Michigan State Civil Rights Commission, 1967. (ERIC ED 029 744).

Wilson, Janet G., and Alice Brenda Black. "Native American Indians and Variables that are Interrelated with Academic Achievement." Paper presented at the Annual Meeting of the Mid-American Association of Educational Opportunity Program Personnel, Fontana, Wisconsin, November 1978. (ERIC ED 165 964).